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STRACHAN'S
AGRICULTURAL TABLES
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Class

A NEW
SET OF TABLES,

FOR COMPUTING

THE WEIGHT OF CATTLE BY MEASUREMENT;

THE

QUANTITY OF HAY IN RICKS OF DIFFERENT FORMS;

THE VALUE OF LAND, &c.;

THE MEASUREMENT OF DRAINS AND DUNGHILLS.

ALSO A FEW OTHER

Practical Tables ;

WITH RULES, EXAMPLES, AND DIRECTIONS FOR USING
THE TABLES.

BY JAMES STRACHAN,

TEACHER, DONALDSON'S SCHOOL, STONEHAVEN.

SECOND EDITION, REVISED AND IMPROVED.

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Jeff
Martha & Hallidie

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AGRICULTURAL TABLES.

TO ASCERTAIN THE WEIGHT OF CATTLE BY MEASUREMENT.

To find the Weight of the Four Quarters, which is generally reckoned about half the weight of the Animal :—

RULE.—Take the girth close behind the fore-shoulders, and the length from the top of the shoulders, in a straight line to the extremity of the buttocks, both in inches ; multiply the square of the girth (*i. e.* the girth multiplied by itself) by the length, and divide the product by 7344, the quotient is the weight in Imperial stones.

To find Smithfield Weight :—Multiply the Imperial Weight by 14, and divide by 8 ; and the Dutch Weight will be obtained by multiplying the Imperial Weight by 14, and dividing by $17\frac{1}{2}$.

N. B.—The above Rule is applicable only to prime fat ; for extra fat, about one-twentieth will require to be added ; and for those of an inferior quality, about the same quantity will require to be deducted from the weight found by this Rule, or in the Table.

Ex.—Required the Imperial and Smithfield Weight of an Ox whose girth is 83 and length 65 inches:—

	St.
83	61
83	14
<hr/>	<hr/>
249	244
664	61
<hr/>	<hr/>
6889	8)854
65	<hr/>
<hr/>	106 $\frac{3}{4}$ Smithfield stones.
34445	
41334	
<hr/>	
7344)147785	
<hr/>	
61 Imperial stones nearly.	

*To find the Weight from the Table:—*Look in the column marked *Girth* for 83, and in the column marked *Length*, on the right hand of the former, look for 65; and then in the next two columns right hand of that, and in the same line with the length, will be found the Imperial and Smithfield Weight.

TABLE I.

MEASUREMENT AND WEIGHT OF CATTLE.

Girth.	Lgth.	Imperial Weight.	Smithfield Weight.	Girth.	Lgth.	Imperial Weight.	Smithfield Weight.
Inch.	Inch.	Sts. lbs.	Sts. lbs.	Inch.	Inch.	Sts. lbs.	Sts. lbs.
34	24	3 11	6 6	35	33	5 7	9 5
	25	3 13	7 0	36	27	4 11	8 4
	26	4 1	7 2		28	4 13	8 6
	27	4 3	7 4		29	5 2	9 0
	28	4 6	7 6		30	5 4	9 2
	29	4 8	8 0		31	5 7	9 5
	30	4 10	8 2		32	5 9	9 7
	31	4 12	8 4		33	5 11	10 1
	32	5 0	8 6		34	6 0	10 4
	33	5 3	9 1		35	6 2	10 6
35	24	4 0	7 0	37	27	5 0	8 6
	25	4 2	7 2		28	5 3	9 1
	26	4 5	7 5		29	5 6	9 4
	27	4 7	7 7		30	5 8	9 6
	28	4 9	8 1		31	5 11	10 1
	29	4 12	8 4		32	6 0	10 4
	30	5 0	8 6		33	6 2	10 6
	31	5 2	9 0		34	6 5	11 1
	32	5 5	9 3		35	6 7	11 3

Girth.	Lgth.	Imperial Weight.	Smithfield Weight.	Girth.	Lgth.	Imperial Weight.	Smithfield Weight.
Inch.	Inch.	Sts. lbs.	Sts. lbs.	Inch.	Inch.	Sts. lbs.	Sts. lbs.
38	29	5 10	10 0	42	33	7 13	13 7
	30	5 13	10 3		34	8 2	14 2
	31	6 1	10 5		35	8 6	14 6
	32	6 4	11 0		36	8 9	15 1
	33	6 7	11 3		37	8 12	15 4
	34	6 10	11 6		38	9 2	16 0
	35	6 12	12 0		39	9 5	16 5
	36	7 1	12 3	43	31	7 11	13 5
39	29	6 0	10 4		32	8 1	14 1
	30	6 3	10 7		33	8 4	14 4
	31	6 6	11 2		34	8 8	15 0
	32	6 9	11 5		35	8 11	15 3
	33	6 12	12 0		36	9 1	15 7
	34	7 1	12 3		37	9 4	16 2
	35	7 3	12 5		38	9 8	16 6
	36	7 6	13 0	44	39	9 12	17 2
40	37	7 9	13 3		32	8 6	14 6
	30	6 7	11 3		33	8 10	15 2
	31	6 10	11 6		35	9 3	16 1
	32	7 0	12 2		37	9 11	17 1
	33	7 3	12 5		39	10 4	18 0
	34	7 6	13 0		40	10 8	18 4
	35	7 9	13 3		41	10 11	18 7
	36	7 12	13 6	45	42	11 1	19 3
41	37	8 1	14 1		33	9 1	15 7
	38	8 4	14 4		35	9 9	16 7
	39	8 6	14 7		36	9 13	17 3
	31	7 1	12 3		37	10 3	17 7
	32	7 5	12 7		39	10 11	18 7
	33	7 8	13 2		41	11 4	19 6
	34	7 11	13 5		42	11 8	20 2
	35	8 0	14 0	47	34	10 3	17 7
42	36	8 3	14 3		35	10 7	18 3
	37	8 7	14 7		36	10 12	19 0
	38	8 10	15 2		38	11 6	20 0
	39	8 13	15 5		40	12 0	21 0
	31	7 6	13 0		41	12 5	21 5
	32	7 10	13 4		42	12 9	22 1

MEASUREMENT AND WEIGHT OF CATTLE.

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Girth.	Lgth.	Imperial Weight.		Smithfield Weight.		Girth.	Lgth.	Imperial Weight.		Smithfield Weight.	
Inch.	Inch.	Sts. lbs.		Sts. lbs.		Inch.	Inch.	Sts. lbs.		Sts. lbs.	
47	43	12	13	22	5	51	46	16	4	28	4
48	34	10	9	18	5		48	17	0	29	6
	36	11	4	19	6	53	35	13	6	23	4
	37	11	9	20	3		36	13	11	24	1
	39	12	4	21	4		38	14	7	25	3
	40	12	8	22	0		39	14	13	26	1
	41	12	12	22	4		41	15	10	27	4
	43	13	7	23	5		42	16	1	28	1
	45	14	2	24	6		44	16	12	29	4
	47	14	10	25	6		45	17	3	30	1
49	34	11	2	19	4		47	18	0	31	4
	35	11	6	20	0		48	18	6	32	2
	36	11	11	20	5		49	18	10	32	6
	38	12	6	21	6	54	36	14	4	25	0
	39	12	11	22	3		37	14	10	25	6
	41	13	6	23	4		39	15	7	27	1
	42	13	10	24	0		40	15	12	27	6
	44	14	5	25	1		41	16	4	28	4
	46	15	1	26	3		42	16	10	29	2
50	35	11	13	20	7		43	17	1	29	7
	36	12	4	21	4		45	17	7	30	5
	37	12	8	22	0		47	18	9	32	5
	38	12	13	22	5		49	19	6	34	0
	39	13	4	23	2		51	20	4	35	4
	41	13	13	24	3	56	39	16	9	29	1
	42	14	4	25	0		40	17	3	30	1
	43	14	9	25	5		41	17	7	30	5
	45	15	4	26	6		43	18	5	32	1
	47	16	0	28	0		44	18	11	32	7
	48	16	5	28	5		46	19	9	34	3
51	35	12	6	21	6		48	20	7	35	7
	37	13	2	23	0		50	21	5	37	3
	38	13	6	23	4		52	22	3	38	7
	40	14	2	24	6		53	22	9	39	5
	41	14	7	25	3	57	39	17	4	30	2
	42	14	12	26	0		41	18	2	31	6
	43	15	3	26	5		42	18	8	32	4
	44	15	8	27	2		44	19	7	34	1

Girth.	Lgth.	Imperial Weight.		Smithfield Weight.		Girth.	Lgth.	Imperial Weight.		Smithfield Weight.	
Inch.	Inch.	Sts. lbs.		Sts. lbs.		Inch.	Inch.	Sts. lbs.		Sts. lbs.	
57	45	19	13	34	7	61	51	25	12	45	2
	47	20	11	36	3		52	26	5	46	1
	48	21	3	37	1		54	27	5	47	7
	49	21	9	37	7		56	28	5	49	5
	51	22	8	39	4	63	58	29	5	51	3
	53	23	6	41	0		40	21	9	37	7
	55	24	5	42	5		41	22	2	38	6
59	40	18	13	33	1		42	22	10	39	6
	41	19	6	34	0		43	23	3	40	5
	43	20	5	35	5		44	23	11	41	5
	44	20	12	36	4		46	24	12	43	4
	46	21	11	38	1		47	25	6	44	4
	47	22	4	39	0		49	26	7	46	3
	49	23	3	40	5		50	27	0	47	2
	50	23	10	41	4		52	28	1	49	1
	52	24	9	43	1		54	29	2	51	0
	54	25	9	44	7		55	29	10	52	0
60	56	26	8	46	6		57	30	13	54	1
	57	27	0	47	4		59	32	0	56	0
	40	19	7	34	1	65	60	32	8	57	0
	42	20	7	35	7		40	23	0	40	2
	43	21	1	36	7		41	23	8	41	2
	45	22	1	38	5		43	24	10	43	2
	46	22	8	39	4		44	25	5	44	3
	47	23	1	40	3		45	25	12	45	2
	48	23	7	41	1		46	26	7	46	3
	50	24	7	42	7		48	27	9	48	3
	51	25	0	43	6		50	28	11	50	3
	53	26	0	45	4		51	29	5	51	3
61	55	26	13	47	1		53	30	6	53	2
	57	27	13	48	7		55	31	9	55	3
	41	20	11	36	3	66	56	32	3	56	3
	42	21	4	37	2		58	33	5	58	3
	43	21	11	38	1		60	34	7	60	3
	44	22	4	39	0		61	35	1	61	3
	45	22	11	39	7		43	25	7	44	5
	47	23	11	41	5		44	26	2	45	6
	49	24	12	43	4		45	26	10	46	6

Girth.	Lgth.	Imperial Weight.		Smithfield Weight.		Girth.	Lgth.	Imperial Weight.		Smithfield Weight.	
Inch.	Inch.	Sts.	lbs.	Sts.	lbs.	Inch.	Inch.	Sts.	lbs.	Sts.	lbs.
66	47	27	12	48	6	68	53	33	5	58	3
	48	28	8	50	0		54	34	0	59	4
	49	29	3	51	1		55	34	9	60	5
	50	29	9	51	7		57	35	12	62	6
	51	30	3	52	7		58	36	7	63	7
	52	30	12	54	0		59	37	2	65	0
	54	32	0	56	0		60	37	11	66	1
	55	32	9	57	1		61	38	6	67	2
	57	33	11	59	1		62	39	1	68	3
	58	34	6	60	2		63	39	9	69	3
	59	35	0	61	2		65	40	13	71	5
	60	35	9	62	3	69	45	29	2	51	0
	61	36	3	63	3		47	30	6	53	2
	62	36	11	64	3		48	31	1	54	3
67	43	26	4	46	0		49	31	11	55	5
	44	27	0	47	2		50	32	6	56	6
	45	27	7	48	1		52	33	10	59	0
	47	28	10	50	2		53	34	5	60	1
	49	30	0	52	4		54	35	0	61	2
	50	30	9	53	5	70	55	35	9	62	3
	51	31	3	54	5		57	36	13	64	5
	53	32	6	56	6		59	38	3	66	7
	54	33	0	57	6		60	39	0	68	2
	56	34	3	59	7		62	40	3	70	3
	58	35	6	62	0		63	40	12	71	4
	59	36	1	63	1		65	42	2	73	6
	60	36	10	64	2		66	42	11	74	7
	61	37	4	65	2		46	30	11	53	7
	63	38	7	67	3		47	31	5	54	7
	64	39	2	68	4		49	32	10	57	2
68	44	27	8	48	2		50	33	5	58	3
	45	28	3	49	3		52	34	11	60	7
	47	29	8	51	6		53	35	5	61	7
	48	30	3	52	7		54	36	0	63	0
	49	30	12	54	0		56	37	5	65	3
	50	31	7	55	1		58	38	10	67	6
	52	32	10	57	2		59	39	5	68	7

Girth.	Lgth.	Imperial Weight.		Smithfield Weight.		Girth.	Lgth.	Imperial Weight.		Smithfield Weight.	
Inch.	Inch.	Sts.	lbs.	Sts.	lbs.	Inch.	Inch.	Sts.	lbs.	Sts.	lbs.
70	60	40	0	70	0	74	54	40	4	70	4
	61	40	10	71	2		55	40	12	71	4
	63	42	1	73	5		57	42	7	74	3
	64	42	10	74	6		59	44	0	77	0
	66	44	1	77	1		60	44	13	78	5
71	48	32	13	57	5	76	62	46	3	80	7
	49	33	9	58	7		63	47	1	82	3
	50	34	5	60	1		65	48	7	84	7
	51	35	0	61	2		67	49	13	87	3
	52	35	10	62	4		68	50	10	88	6
	54	37	1	64	7	77	52	40	13	71	5
	55	37	10	66	0		53	41	10	73	0
	57	39	0	68	2		55	43	4	75	6
	58	39	11	69	3		56	44	1	77	1
	59	40	8	71	0		57	44	12	78	4
	60	41	3	72	1		58	45	9	79	7
	62	42	8	74	4		60	47	3	82	5
	63	43	3	75	5		61	48	0	84	0
	65	44	9	78	1		63	49	8	86	6
	67	45	13	80	3		64	50	5	88	1
72	49	34	7	60	3		65	51	2	89	4
	50	35	5	61	7		66	51	13	90	7
	51	36	0	63	0		67	52	11	92	3
	53	37	6	65	4		69	54	4	95	0
	54	38	2	66	6		53	42	8	74	4
	56	39	7	69	1		54	43	6	76	0
	57	40	3	70	3		55	44	4	77	4
	58	40	13	71	5		57	45	11	80	1
	60	42	5	74	1		59	47	6	83	0
	61	43	3	75	5		60	48	4	84	4
	62	43	13	76	7		61	49	1	85	7
	64	45	2	79	0		63	50	10	88	6
	65	45	12	80	2		64	51	7	90	1
	67	47	4	82	6		65	52	2	91	2
	68	48	0	84	0		67	53	13	94	3
74	51	38	0	66	4		68	54	11	95	7
	53	38	11	67	7		70	56	5	98	5

Girth.	Lgth.	Imperial Weight.		Smithfield Weight.		Girth.	Lgth.	Imperial Weight.		Smithfield Weight.	
Inch.	Inch.	Sts. lbs.		Sts. lbs.		Inch.	Inch.	Sts. lbs.		Sts. lbs.	
79	54	45	13	80	3	82	63	57	10	101	0
	55	46	13	82	1		65	59	7	104	1
	56	47	8	83	2		66	60	6	105	6
	58	49	4	86	2		67	61	5	107	3
	59	50	2	87	6		68	62	4	109	0
	60	51	0	89	2		70	64	1	112	1
	62	52	11	92	3		71	65	0	113	6
	63	53	7	93	5		72	65	13	115	3
	64	54	5	95	1	83	55	51	8	90	2
	65	55	3	97	7		56	52	7	91	7
	66	56	1	98	1		58	54	6	95	2
	67	56	13	99	5		59	55	5	96	7
	68	57	11	101	1		60	56	4	98	4
	69	58	9	102	6		61	57	3	100	1
	70	59	7	104	1		62	58	2	101	6
	71	60	5	105	5		64	60	0	105	0
80	54	47	1	82	3		65	61	0	106	6
	55	47	13	83	7		66	61	13	108	3
	57	49	9	86	7		68	63	11	111	5
	58	50	8	88	4		70	65	9	114	7
	59	51	6	90	0		71	66	8	116	4
	60	52	6	91	6		73	68	5	119	5
	61	53	2	93	0	84	56	53	13	94	3
	63	54	13	96	1		57	54	11	95	7
	64	55	11	97	5		59	56	10	99	1
	65	56	9	99	1		61	58	9	102	5
	67	58	5	102	2		63	60	7	105	7
	68	59	4	103	6		64	61	7	107	5
	69	60	2	105	2		66	63	6	111	0
	71	61	11	108	1		67	64	5	112	5
	72	62	10	109	6		69	66	4	116	0
82	55	50	5	88	1		70	67	4	117	6
	56	51	4	89	6		72	69	2	121	0
	57	52	3	91	3		73	70	0	122	4
	58	53	1	92	7		75	72	1	126	1
	60	54	13	96	1	86	56	56	6	98	6
	62	56	13	99	5		57	57	6	100	4

Girth.	Lgth.	Imperial Weight.		Smithfield Weight.		Girth.	Lgth.	Imperial Weight.		Smithfield Weight.	
Inch.	Inch.	Sts.	lbs.	Sts.	lbs.	Inch.	Inch.	Sts.	lbs.	Sts.	lbs.
86	59	59	6	104	0	89	68	73	6	123	4
	60	60	6	105	6		69	74	6	130	2
	62	62	6	109	2		70	75	7	132	1
	63	63	6	111	0		72	77	9	135	7
	64	64	6	112	6		73	78	10	137	6
	66	66	6	116	2		75	80	12	141	4
	67	67	7	118	1		76	82	0	143	4
	68	68	7	119	7		77	83	1	145	3
	69	69	7	121	5		78	84	2	147	2
	70	70	7	123	3	90	58	64	0	112	0
	72	72	7	126	7		59	65	1	113	7
	73	73	7	128	5		60	66	2	115	6
	74	74	7	130	3		61	67	4	117	6
	76	76	7	133	1		62	68	5	119	5
87	56	57	10	101	0		64	70	7	123	3
	57	58	11	102	7		65	71	10	125	4
	59	60	12	106	4		67	73	13	129	3
	60	61	12	108	2		69	76	1	133	1
	62	63	13	111	7		70	77	3	135	1
	63	64	13	113	5		72	79	6	139	0
	65	67	0	117	2		73	80	7	140	7
	67	69	1	120	7		74	81	9	142	7
	68	70	1	122	5		76	83	12	146	6
	69	71	2	124	4		77	84	13	148	5
	71	73	3	128	1		78	86	0	150	4
	72	74	3	129	7	91	80	88	4	154	4
	74	76	4	133	4		59	66	7	116	3
	75	77	4	135	2		60	67	9	118	3
	77	79	5	138	7		61	68	11	120	3
89	57	61	7	107	5		62	69	13	122	3
	58	62	8	109	4		63	71	1	124	3
	59	63	9	111	3		65	73	4	128	2
	60	64	10	113	2		66	74	6	130	2
	61	65	11	115	1		67	75	8	132	2
	63	67	13	118	7		69	77	11	136	1
	64	69	0	120	6		70	78	13	138	1
	66	71	3	124	5		71	80	1	140	1

Girth.	Lgth.	Imperial Weight.		Smithfield Weight.		Girth.	Lgth.	Imperial Weight.		Smithfield Weight.	
Inch.	Inch.	Sts. lbs.		Sts. lbs.		Inch.	Inch.	Sts. lbs.		Sts. lbs.	
91	72	81	1	141	7	93	74	87	2	152	4
	74	83	6	146	0		76	89	7	156	5
	76	85	10	150	0		77	90	10	158	6
	78	87	13	153	7		78	91	12	160	6
	80	90	3	157	7		79	93	0	162	6
92	60	69	2	121	0	94	80	94	3	164	7
	61	70	4	123	0		82	96	8	169	0
	62	71	6	125	0		83	97	10	171	0
	63	72	9	127	1		61	73	6	128	4
	64	73	11	129	1		62	74	8	130	4
	66	76	1	133	1		63	75	11	132	5
	67	77	3	135	1		64	77	0	134	6
	69	79	7	139	1		65	78	3	136	7
	70	80	9	141	1		66	79	6	139	0
	71	81	11	143	1		68	81	11	143	1
	72	83	0	145	2		69	83	0	145	2
	73	84	2	147	2		70	84	3	147	3
	74	85	6	149	4		71	85	6	149	4
	75	86	8	151	4		72	86	9	151	5
	77	88	10	155	2		74	89	0	155	6
93	78	89	13	157	3		75	90	3	157	7
	79	91	0	159	2		77	92	9	162	1
	80	92	3	161	3		78	93	12	164	2
	81	93	5	163	3		79	95	1	166	3
	82	94	7	165	3		80	96	4	168	4
	60	70	9	123	5		81	97	6	170	4
	61	71	12	125	6		83	99	12	174	6
	62	73	0	127	6		84	101	1	176	7
	63	74	3	129	7		85	102	4	179	0
	65	76	8	134	0	95	66	81	1	141	7
	67	78	13	138	1		67	82	5	144	1
	68	80	1	140	1		68	83	8	146	2
	69	81	4	142	2		70	86	0	150	4
	70	82	6	144	2		71	87	4	152	6
	71	83	9	146	3		72	88	7	154	7
	72	84	11	148	3		73	89	10	157	0
	73	86	0	150	4		74	90	13	159	1

Girth.	Lgth.	Imperial Weight.		Smithfield Weight.		Girth.	Lgth.	Imperial Weight.		Smithfield Weight.	
Inch.	Inch.	Sts.	lbs.	Sts.	lbs.	Inch.	Inch.	Sts.	lbs.	Sts.	lbs.
95	75	92	2	161	2	97	73	93	7	163	5
	76	93	6	163	4		75	96	1	168	1
	78	95	12	167	6		76	97	5	170	3
	80	98	4	172	0		77	98	9	172	5
	82	100	11	176	3		79	101	3	177	1
	83	102	0	178	4		80	102	7	179	3
	84	103	3	180	5		81	103	11	181	5
	86	105	10	185	0		82	105	1	183	7
96	68	85	5	149	3	98	85	108	13	190	5
	69	86	8	151	4		86	110	3	192	7
	70	87	12	153	6		88	112	10	197	4
	72	90	5	158	1		69	90	3	157	7
	73	91	9	160	2		70	91	8	160	2
	74	92	12	162	4		72	94	2	164	6
	76	95	5	166	7		73	95	7	167	1
	77	96	9	169	1		75	98	1	171	5
	78	97	12	171	2		76	99	5	173	7
	80	100	5	175	5		77	100	10	176	2
	81	101	9	177	7		79	103	4	180	6
	82	102	13	180	1		80	104	9	183	1
	84	105	6	184	4		81	105	13	185	3
	85	106	9	186	5		82	107	3	187	5
	86	107	13	188	7		83	108	8	190	0
	87	109	2	191	0		85	111	2	194	4
97	68	87	2	152	4		86	112	6	196	6
	69	88	6	154	6		87	113	11	199	1
	70	89	10	157	0		88	115	1	201	3
	71	90	13	159	1		89	116	5	203	5
	72	92	3	161	3		90	117	10	206	0

TO FIND THE WEIGHT OF HAY, IN RICKS OF A CYLINDRICAL OR CONICAL FORM.

I. To find the number of stones in a rick, its body being of a cylindrical form and its top conical :—

RULE 1.—To the perpendicular height from the ground to the eaves, add one-third of that from the eaves to the top, for the mean height.—2. When the rick is perfectly cylindrical, take the girth any where between the ground and the eaves ; but when not so, take a girth at the ground and one at the eaves : their sum divided by 2 will give the mean girth.—3. Multiply the square of the girth, or that of the mean girth, by the mean height ; their product, multiplied by 100 and divided by 4847, will give the number of stones nearly, reckoning 7 stones in a cubic yard.

II. When the rick is of a conical form :—

RULE.—Take the girth at the ground, and one-third of the perpendicular height, then proceed according to the former rule ; or take the whole perpendicular height, and then take one-third of the quantity found.

N. B.—The two following Tables have been calculated at 7 stones per cubic yard ; but it is evident, from various causes, that this cannot always be correct, for hay has been found to vary from 5 to 9 stones per cubic yard, or perhaps more.

To find the number of stones at any other rate per cubic yard:—

RULE.—Take from the Table the number of stones corresponding to the dimensions of the rick, divide them by 7, and multiply the product by the number of stones supposed to be in a cubic yard of said rick.

Ex.—Required the number of stones in a rick of hay, 18 feet high from the ground to the eaves, and from that to the top 9, and girth 60 feet.

Mean height, 21 feet.

$$\begin{array}{r}
 60 \\
 60 \\
 \hline
 3600 \\
 21 \\
 \hline
 3600 \\
 7200 \\
 \hline
 75600 \\
 100 \\
 \hline
 \hline
 \end{array}$$

4847)7560000(1559 $\frac{8}{10}$ stones nearly.

*To find the Weight from the Table:—*Look for the girth in the left hand column, for the height in the second; opposite to which, in the third, you will find the number of stones.

TABLE II.

MEASUREMENT AND WEIGHT OF HAY IN RICKS
OF A CYLINDRICAL OR CONICAL FORM.

Girth.	Hght.	Weight.		Girth.	Hght.	Weight.		Girth.	Hght.	Weight.	
Feet.	Feet.	Sts.	10th	Feet.	Feet.	Sts.	10th	Feet.	Feet.	Sts.	10th
15	7	32	5	18	12	80	2	23	9	98	2
	8	37	1		13	86	9		10	109	1
	9	41	8		14	93	6		11	120	0
	10	46	4	19	8	59	6	24	12	131	0
	11	51	1		9	67	0		13	141	9
	12	55	7		10	74	5		14	152	8
	13	60	3		12	89	4		15	163	7
	14	65	0		13	96	8		16	174	6
	16	8	42 3		14	104	3		9	107	0
	9	47	5	20	8	66	0		10	118	8
16	10	52	8		9	74	3		11	130	5
	11	58	1		10	82	5		12	142	6
	12	63	5		11	90	8		13	154	5
	13	68	7		12	99	0		14	166	4
	14	73	9		13	107	3		15	178	4
	17	8	47 7		14	115	5		16	190	1
	9	53	7	21	8	73	0	26	17	202	0
17	10	59	6		9	81	9		9	125	0
	11	65	6		10	91	0		10	139	5
	12	71	5		11	100	1		11	153	4
	13	77	5		12	109	2		12	167	4
	14	83	5		13	118	3		13	181	3.
	18	8	53 5		14	127	4		14	195	0
	9	60	2	23	15	136	5		15	209	2
18	10	66	8		16	145	6		16	223	1
	11	73	5		8	87	3		17	237	1

Girth.	Hght.	Weight.		Girth.	Hght.	Weight.		Girth.	Hght.	Weight.	
Feet.	Feet.	Sts.	10th	Feet.	Feet.	Sts.	10th	Feet.	Feet.	Sts.	10th
27	10	150	4	30	19	352	8	35	15	379	1
	11	165	4	31	10	198	3		16	404	4
	12	180	5		11	218	1		17	429	6
	13	195	5		12	237	9		18	454	9
	14	210	6		13	257	7		19	480	2
	15	225	6		14	277	6		21	505	5
	16	240	6		15	297	4	36	10	267	4
	17	255	7		16	317	2		11	294	1
	18	270	7		17	337	1		12	320	8
28	10	161	7		18	356	9		13	347	6
	11	177	9		19	376	7		14	374	3
	12	194	1	32	10	211	3		15	401	0
	13	210	3		11	232	4		16	427	6
	14	226	4		12	253	3		17	454	5
	15	242	6		13	274	6		18	481	8
	16	258	8		14	295	8		19	508	0
	17	275	0		15	316	9		20	534	9
	18	291	2		16	338	0		21	561	5
	19	307	3		17	359	4	37	11	310	7
29	10	173	5		18	380	3		12	338	9
	11	190	1		19	401	4		13	367	2
	12	208	2	33	10	224	7		14	395	4
	13	225	5		11	247	1		15	423	6
	14	242	9		12	269	6		16	451	9
	15	260	3		13	292	1		17	480	1
	16	277	7		14	314	5		18	508	4
	17	294	9		15	337	0		19	536	6
	18	312	3		16	359	5		20	565	1
	19	329	7		17	381	9		21	593	1
30	10	185	7		18	404	4	38	11	327	7
	11	204	1		19	426	9		12	357	5
	12	222	8		20	449	3		13	387	3
	13	241	2		21	471	8		14	417	1
	14	259	9	35	10	252	7		15	446	8
	15	278	5		11	278	0		16	476	6
	16	297	1		12	303	3		17	506	4
	17	315	7		13	328	6		18	536	1
	18	334	2		14	353	8		19	566	0

Girth.	Hght.	Weight.		Girth.	Hght.	Weight.		Girth.	Hght.	Weight.	
Feet.	Feet.	Sts.	10th	Feet.	Feet.	Sts.	10th	Feet.	Feet.	Sts.	10th
38	20	595	9	42	14	509	5	46	19	829	5
	21	625	4		15	545	9		20	873	1
39	11	345	2		16	582	3		21	916	8
	12	376	6		17	618	7		22	960	4
	13	407	9		18	655	1	48	11	522	8
	14	439	3		19	691	5		12	570	4
	15	470	7		20	727	9		13	617	9
	16	502	1		21	763	3		14	665	5
	17	533	3	43	11	419	6		15	713	0
	18	564	8		12	457	8		16	760	5
	19	596	2		13	495	9		17	808	1
	20	627	6		14	534	0		18	855	6
	21	659	0		15	572	2		19	903	2
40	11	363	1		16	610	3		20	950	9
	12	396	1		17	648	5		21	998	2
	13	429	1		18	686	7		22	1045	8
	14	462	1		19	724	8	49	11	544	9
	15	495	2		20	762	9		12	594	4
	16	528	2		21	801	1		13	644	0
	17	561	2	45	11	459	6		14	693	5
	18	594	2		12	501	3		15	743	0
	19	627	2		13	543	1		16	792	6
	20	660	2		14	584	9		17	842	1
	21	693	2		15	626	7		18	891	6
41	11	381	5		16	668	5		19	941	2
	12	416	2		17	710	3		20	990	7
	13	450	9		18	752	0		21	1040	3
	14	485	5		19	793	8		22	1089	8
	15	520	2		20	835	6	50	11	567	4
	16	554	9		21	877	4		12	618	9
	17	589	6	46	11	480	2		13	670	5
	18	624	3		12	523	9		14	722	1
	19	658	9		13	567	5		15	773	7
	20	693	7		14	611	6		16	825	3
	21	728	3		15	654	8		17	876	8
42	11	400	3		16	698	5		18	928	0
	12	436	7		17	742	1		19	980	0
	13	473	1		18	785	9		20	1031	7

Girth.	Hght.	Weight.		Girth.	Hght.	Weight.		Girth.	Hght.	Weight.	
Feet.	Feet.	Sts.	10th	Feet.	Feet.	Sts.	10th	Feet.	Feet.	Sts.	10th
50	21	1083	1	52	23	1283	2	55	12	748	9
	22	1134	7		24	1339	0		13	811	5
	23	1186	3		53	12	695	4	14	873	7
51	11	590	3		13	753	4		15	936	2
	12	643	9		14	811	3		16	998	6
	13	697	6		15	869	3		17	1061	0
	14	751	3		16	927	3		18	1123	4
	15	804	9		17	985	2		19	1185	8
	16	858	6		18	1043	2		20	1248	2
	17	912	3		19	1101	1		21	1310	6
	18	965	9		20	1159	1		22	1373	1
	19	1019	6		21	1217	0		23	1435	6
	20	1073	2		22	1275	0		24	1497	8
	21	1126	9		23	1332	9		25	1560	2
	22	1180	6		24	1390	9	56	12	776	4
52	23	1234	2	54	12	721	9		13	841	1
	24	1287	9		13	782	1		14	905	8
	11	613	6		14	842	3		15	970	5
	12	669	4		15	902	4		16	1035	2
	13	752	2		16	962	6		17	1099	9
	14	781	0		17	1022	8		18	1163	6
	15	836	8		18	1083	0		19	1238	3
	16	892	6		19	1143	4		20	1303	0
	17	948	4		20	1203	4		21	1367	7
	18	1004	2		21	1263	5		22	1432	4
	19	1060	0		22	1323	6		23	1497	1
	20	1115	8		23	1383	7		24	1561	8
	21	1171	6		24	1443	9		25	1626	5
	22	1227	4		25	1504	0				

TO FIND THE WEIGHT OF HAY IN RICKS OF AN OBLONG FORM.

RULE.—To the height from the ground to the eaves add one-half the perpendicular height of the top for the mean height (taking all the dimensions in feet); then multiply the mean height by the breadth, and their product by the length; which last product, divided by 27, will give the number of cubic yards in the rick; these, multiplied by 7, will give the number of stones, at 7 stones per cubic yard.

Ex.—Required the number of stones in an oblong rick 45 feet long, mean height 11 feet, and 12 feet broad:—

$$\begin{array}{r}
 11 \\
 12 \\
 \hline
 132 \\
 45 \\
 \hline
 660 \\
 528 \\
 \hline
 27 \overline{) 5940} (220 \\
 \phantom{27 \overline{) 5940}} 7 \\
 \hline
 1540 \text{ stones.}
 \end{array}$$

To find the Weight from the Table:—Look for the length in the left-hand column, on the right of it for the breadth and height, opposite to which in the next column you will find the weight.

TABLE III.

MEASUREMENT AND WEIGHT OF HAY IN RICKS OF AN OBLONG FORM.

Lgth.	Bdth.	Hght.	Weight.		Lgth.	Bdth.	Hght.	Weight.	
Feet.	Feet.	Feet.	Sts.	10th	Feet.	Feet.	Feet.	Sts.	10th
12	10	8	228	9	17	12	10	528	9
	11	9	308	0		13	11	630	2
	12	10	373	3		14	12	740	4
13	10	8	269	6	18	10	8	373	3
	11	9	333	7		11	9	462	0
	12	10	412	2		12	10	560	0
14	13	11	482	0	19	13	11	667	3
	10	8	290	4		14	12	784	0
	11	9	359	3		10	8	394	1
15	12	10	435	6	20	11	9	487	7
	13	11	519	0		12	10	591	1
	14	12	609	8		13	11	704	4
17	10	8	311	1		14	12	827	6
	11	9	385	0		10	8	414	8
	12	10	466	7		11	9	513	3
	13	11	556	1		12	10	622	2
	14	12	653	3		13	11	741	5
	10	8	352	2		14	12	871	1
	11	9	436	3		15	13	1011	1

Lgth.	Bdth.	Hght.	Weight.		Lgth.	Bdth.	Hght.	Weight.	
Feet.	Feet.	Feet.	Sts.	10th	Feet.	Feet.	Feet.	Sts.	10th
21	10	8	435	6	26	16	14	1509	9
	11	9	539	0	27	10	8	560	0
	12	10	653	3		11	9	693	0
	13	11	778	6		12	10	840	0
	14	12	914	7		13	11	1001	0
	15	13	1061	7		14	12	1176	0
22	10	8	464	4		15	13	1365	0
	11	9	564	7		16	14	1586	0
	12	10	684	4	28	10	8	580	7
	13	11	815	5		11	9	718	7
	14	12	958	2		12	10	871	1
	15	13	1012	2		13	11	1038	1
23	10	8	477	0		14	12	1219	6
	11	9	590	3		15	13	1415	6
	12	10	715	6		16	14	1618	4
	13	11	853	3	30	10	9	700	0
	14	12	1001	8		11	10	755	6
	15	13	1162	8		12	11	1026	7
24	10	8	497	8		13	12	1213	3
	11	9	616	0		14	13	1405	6
	12	10	746	7		15	14	1633	3
	13	11	889	8		16	15	1866	7
	14	12	1045	3		17	16	2115	6
	15	13	1213	3		18	17	2380	0
25	16	14	1393	8	31	10	9	723	3
	10	8	518	5		11	10	884	1
	11	9	641	7		12	11	1060	9
	12	10	777	8		13	12	1253	7
	13	11	936	8		14	13	1462	9
	14	12	1088	9		15	14	1687	8
26	15	13	1263	9		16	15	1928	9
	16	14	1451	8		17	16	2186	1
	10	8	539	2		18	17	2459	3
	11	9	657	3	33	10	9	770	0
	12	10	808	9		11	10	941	1
	13	11	963	9		12	11	1129	3
	14	12	1132	4		13	12	1334	7
	15	13	1314	4		14	13	1557	1

Lgth.	Bdth.	Hght.	Weight.		Lgth.	Bdth.	Hght.	Weight.	
Feet.	Feet.	Feet.	Sts.	10th	Feet.	Feet.	Feet.	Sts.	10th
33	15	14	1796	7	39	15	14	2123	3
	16	15	2053	3		16	15	2426	7
	17	16	2327	1		17	16	2750	2
	18	17	2618	0		18	17	3094	0
34	10	9	793	3	40	19	18	3458	0
	11	10	969	6		20	19	3920	0
	12	11	1163	6		10	9	933	3
	13	12	1375	1		11	10	1140	7
36	14	13	1604	4	42	12	11	1368	9
	15	14	1951	1		13	12	1617	8
	16	15	2115	6		14	13	1887	4
	17	16	2397	9		15	14	2177	8
37	18	17	2580	7	43	16	15	2488	9
	10	9	840	0		17	16	2820	7
	11	10	1026	7		18	17	3173	3
	12	11	1232	0		19	18	3546	7
39	13	12	1456	0	44	20	19	3940	7
	14	13	1698	7		21	20	4255	6
	15	14	1960	0		10	9	980	0
	16	15	2240	0		11	10	1197	8
38	17	16	2538	7	45	12	11	1437	3
	18	17	2856	0		13	12	1698	7
	10	9	863	3		14	13	1981	8
	11	10	1055	2		15	14	2286	7
39	12	11	1266	1	46	16	15	2613	3
	13	12	1496	4		17	16	2961	9
	14	13	1719	9		18	17	3332	0
	15	14	2014	4		19	18	3724	0
40	16	15	2302	2	47	20	19	4137	8
	17	16	2609	2		21	20	4573	3
	18	17	2935	3		11	10	1226	3
	19	18	3280	7		12	11	1471	6
41	20	19	3645	2	48	13	12	1739	0
	10	9	910	0		14	13	2019	0
	11	10	1012	2		15	14	2341	1
	12	11	1334	7		16	15	2675	6
42	13	12	1577	3	49	17	16	3032	3
	14	13	1840	2		18	17	3411	3

Lgth.	Bdth.	Hght.	Weight.		Lgth.	Bdth.	Hght.	Weight.	
Feet.	Feet.	Feet.	Sts.	10th	Feet.	Feet.	Feet.	Sts.	10th
43	19	18	3859	3	45	20	19	4433	3
	20	19	4236	3		21	20	4900	0
	21	20	4682	2	48	13	12	1941	3
45	12	11	1540	0		14	13	2264	9
	13	12	1840	2		15	14	2613	3
	14	13	2123	3		16	15	2986	7
	15	14	2450	0		17	16	3384	9
	16	15	2800	0		18	17	3808	0
	17	16	3173	3		19	18	4256	0
	18	17	3570	0		20	19	4728	9
	19	18	3990	0		21	20	5226	7

TO FIND THE VALUE OF ANY QUANTITY OF LAND, OR OF WORK DONE ON IT, AT ANY RATE PER ACRE.

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RULE.—As 1 acre is to the quantity of land, so is the rate per acre to the value.

Rule for Working.—Reduce the first and second terms to the same denomination, and the third term to the lowest denomination mentioned in it; then multiply the second and third terms together, and divide their product by the first, the quotient will be the value in the same denomination as that to which the third term was reduced.

Ex.—Required the value of 20 acres, 2 roods, 10 poles, at £20, 10s. 6d. per acre:—

A.	:	A.	R.	P.	::	£	s.	d.
1		20	2	10		20	10	6
4		4				20		
—		—				—		
4		82				410		
40		40				12		
—		—				—		
160		3290				4926		
		4926						
		—						
		19740						
		6580						
		29610						
		13160						
		—						
		12						
		160)16206540(101290 $\frac{3}{4}$ $\frac{1}{2}$ pence.						
		—						
		20)8440 10						
		—						
		£422 0 10 $\frac{3}{4}$ $\frac{1}{2}$ Answer.						

To find the value of the same from the Table, look in the left hand columns for the quantity of land, and opposite to it in the column at the given rate you will find the value.

From the Table—

20 acres, at £20 per acre	.	.	.	.	£400	0	0
2 roods, at £20 per acre	.	.	.	.	10	0	0
10 poles, at £20 per acre	.	.	.	.	1	5	0
20 acres, at 10s. per acre	.	.	.	.	10	0	0
2 roods, at 10s. per acre	.	.	.	.	0	5	0
10 poles, at 10s. per acre	.	.	.	.	0	0	7 $\frac{1}{2}$
20 acres, at 6d. per acre	.	.	.	.	0	10	0
2 roods, at 6d. per acre	.	.	.	.	0	0	3
10 poles, at 6d. per acre	.	.	.	.	0	0	0 $\frac{1}{4}$ 5 $\frac{5}{16}$
Value as before,	.	.	.	.	£422	0	10 $\frac{3}{4}$ 5 $\frac{5}{16}$

VALUE OF LAND, &c.

Quantity of Land.				At 3d. per Acre.				At 4d. per Acre.				At 5d. per Acre.				At 6d. per Acre.			
A.	R.	P.	Y.	£	s.	d.	Qr 10th	£	s.	d.	Qr 10th	£	s.	d.	Qr 10th	£	s.	d.	Qr 10th
			1																
			2																
			3																
			4																
			5																
			6																
			7																
			8																
			9																
			10																
			20																
		1																	
		2																	
		3																	

Quantity of Land.				At 1s. per Acre.				At 2s. per Acre.				At 3s. per Acre.				At 4s. per Acre.					
A.	R.	P.	Y.	£	s.	d.	Qr 10th	£	s.	d.	Qr 10th	£	s.	d.	Qr 10th	£	s.	d.	Qr 10th		
			1																		
			2																		
			3															0	0	1	
			4															0	0	1	
			5											0	0	1		0	0	1	
			6											0	0	1		0	0	2	
			7											0	0	2		0	0	2	
			8											0	0	2		0	0	3	
			9											0	0	2		0	0	3	
			10			0	0	1			0	0	2			0	0	0	0	3	
			20			0	0	2			0	0	4			0	0	0	0	6	
		1				0	0	3			0	0	6			0	0	0	1	2	
		2				0	0	6			0	1	2			0	1	0	2	4	
		3				0	0	9			0	1	8			0	2	0	3	6	
		4				0	1	2			0	2	4			0	3	0	1	0	8
		5				0	1	5			0	3	0			1	0	0	1	2	0
		6				0	1	6			0	3	6			1	1	0	3	2	2
		7				0	2	1			1	0	2			1	2	0	4	0	4
		8				0	2	4			1	0	8			1	3	0	1	6	6
		9				0	2	7			1	1	4			2	0	0	2	8	8
		10				0	3	0			1	2	0			2	1	0	3	0	0
		20				1	2	0			3	0	0			4	2	0	6		
						3	0	0			6					9	0	0			
		1				6	0	0			1	0				1	6				
		2				9	0	0			1	6				2	3				
		3				1	2				2	3				3	0				
1					1	2					4					4					
2					2	3					6					6					
3					3	4					8					8					
4					4	5					10					10					
5					5	6					12					12					
6					6	7					14					14					
7					7	8					16			1	1	16					
8					8	9					18			1	4	18					
9					9	10								1	7						
10					10									1	10						
20					1	2								3							
40					2	4								6							
60					3	6								9							
80					4	8								12							
100					5	10					10			15							

Quantity of Land.				At 9s. per Acre.			At 10s. per Acre.			At £1 per Acre.			At £2 per Acre.		
A.	R.	P.	Y.	£	s.	d. Qr 10th	£	s.	d. Qr 10th	£	s.	d. Qr 10th	£	s.	d. Qr 10th
			1									0 0 1			0 0 3
			2			0 0 1			0 0 1			0 0 3			0 0 7
			3			0 0 2			0 0 2			0 0 5			0 1 1
			4			0 0 3			0 0 3			0 0 7			0 1 3
			5			0 0 3			0 0 4			0 0 9			0 1 9
			6			0 0 5			0 0 5			0 1 1			0 2 3
			7			0 0 6			0 0 6			0 1 3			0 2 7
			8			0 0 7			0 0 7			0 1 5			0 3 1
			9			0 0 8			0 0 8			0 1 7			0 3 5
			10			0 0 8			0 0 9			0 1 9			0 3 9
			20			0 1 7			0 1 9			0 3 9			1 3 9
		1				0 2 7			0 3 0			1 2 0			3
		2				1 1 4			1 2 0			3 0 0			6
		3				2 0 1			2 1 0			4 2			9
		4				2 2 8			3 0 0			6 0		1	0
		5				3 1 5			3 3 0			7 2		1	3
		6				4 0 2			4 2 0			9 0		1	6
		7				4 2 9			5 1 0			10 2		1	9
		8				5 1 6			6 0 0		1	0 0		2	0
		9				6 0 3			6 3 0		1	1 2		2	3
		10				6 3 0			7 2 0		1	3 0		2	6
		20				1 1 2		1	3		2	6		5	
		1				2 3		2	6		5			10	
		2				4 6		5	0		10			1	
		3				6 9		7	6		15			1	10
						9		10	0					2	
1						18		1	0		1			4	
2						1 7		1	10		2			6	
3						1 16		2	0		3			8	
4						2 5		2	10		4			10	
5						2 14		3	0		5			12	
6						3 3		3	10		6			14	
7						3 12		4	0		7			16	
8						4 1		4	10		8			18	
9						4 10		5	0		9			20	
10						9 0		10			10			40	
20											20			80	
40						18		20			40			120	
60						27		30			60			160	
80						36		40			80			200	
00						45		50			100				

Quantity of Land.				At £3 per Acre.			At £4 per Acre.			At £5 per Acre.			At £6 per Acre.		
A.	R.	P.	Y.	£	s.	d.Qr10th	£	s.	d.Qr10th	£	s.	d.Qr10th	£	s.	d.Qr10th
			1			0 0 5			0 0 7			0 0 9			0 1 1
			2			0 1 1			0 1 5			0 1 9			0 2 3
			3			0 1 7			0 2 3			0 2 9			0 3 5
			4			0 2 3			0 3 1			0 3 9			1 0 7
			5			0 2 9			0 3 9			1 0 9			1 1 9
			6			0 3 5			1 0 7			1 1 9			1 3 1
			7			1 0 3			1 1 5			1 2 9			2 0 3
			8			1 0 7			1 2 3			1 3 9			2 1 5
			9			1 1 3			1 3 1			2 0 9			2 2 7
			10			1 1 9			1 3 9			2 1 9			2 3 9
			20			2 3 9			3 2 8			4 3 8			5 3 8
		1				4 2 0			6			7 2 0			9 0 0
		2				9 0 0		1	0		1	3 0 0		1	6
		3		1		1 2		1	6		1	10 2 0		2	3
		4		1		6 0		2	0		2	6 0 0		3	0
		5		1	10	2		2	6		3	1 2 0		3	9
		6		2		3 0		3	0		3	9 0 0		4	6
		7		2		7 2		3	6		4	4 2 0		5	3
		8		3		0 0		4	0		5	0 0 0		6	0
		9		3		4 2		4	6		5	7 2 0		6	9
		10		3		9 0		5			6	3 0 0		7	6
		20		7		6 0		10			12	6		15	
	1			15				1			1	5		1	10
	2			1	10			2			2	10		3	0
	3			2	5			3			3	15		4	10
1				3	0			4			5			6	0
2				6				8			10			12	
3				9				12			15			18	
4				12				16			20			24	
5				15				20			25			30	
6				18				24			30			36	
7				21				28			35			42	
8				24				32			40			48	
9				27				36			45			54	
10				30				40			50			60	
20				60				80			100			120	
40				120				160			200			240	
60				180				240			300			360	
80				240				320			400			480	
100				300				400			500			600	

Quantity of Land.				At £7 per Acre.			At £8 per Acre.			At £9 per Acre.			At £10 per Acre.		
A.	R.	P.	Y.	£	s.	d.Qr10th	£	s.	d.Qr10th	£	s.	d.Qr10th	£	s.	d.Qr10th
			1			0 1 3			0 1 5			0 1 7			0 1 9
			2			0 2 7			0 3 1			0 3 5			0 3 9
			3			1 0 1			1 0 7			1 1 3			1 1 9
			4			1 1 5			1 2 3			1 3 1			1 3 9
			5			1 2 9			1 3 9			2 0 9			2 1 9
			6			2 0 3			2 1 5			2 2 6			2 3 9
			7			2 1 7			2 3 1			3 0 4			3 1 8
			8			2 3 1			3 0 6			3 2 2			3 3 8
			9			3 0 5			3 2 2			4 0 0			4 1 8
			10			3 1 8			3 3 8			4 1 8			4 3 8
			20			6 3 7			7 3 7			8 3 7			9 3 6
		1				10 2 0		1			1	1 2		1	3
		2			1	9 0		2			2	3 0		2	6
		3			2	7 2		3			3	4 2		3	9
		4			3	6 0		4			4	6 0		5	0
		5			4	4 2		5			5	7 2		6	3
		6			5	3 0		6			6	9 0		7	6
		7			6	1 2		7			7	10 2		8	9
		8			7	0 0		8			9	0 0		10	0
		9			7	10 2		9			10	1 2		11	3
		10			8	9	0	10			11	3		12	6
		20			17	6		1			1	2 6		1	5 0
	1				1	15		2			2	5		2	10
	2				3	10		4			4	10		5	0
	3				5	5		6			6	15		7	10
1					7			8			9	0		10	
2					14			16			18			20	
3					21			24			27			30	
4					28			32			36			40	
5					35			40			45			50	
6					42			48			54			60	
7					49			56			63			78	
8					56			64			72			80	
9					63			72			81			90	
10					70			80			90			100	
20					140			160			180			220	
40					280			320			360			400	
60					420			480			540			600	
80					560			640			720			800	
100					700			800			900			1000	

Quantity of Land.				At £20 per Acre.				At £40 per Acre.				At £60 per Acre.								
A.	R.	P.	Y.	£	s.	d.	Qr	10th	£	s.	d.	Qr	10th	£	s.	d.	Qr	10th		
			1				0	3	9				1	3	9			2	3	9
			2				1	3	8				3	3	8			5	3	8
			3				2	3	9				5	3	8			8	3	7
			4				3	3	8				7	3	7			11	3	6
			5				4	3	8				9	3	6		1	2	3	5
			6				5	3	8				11	3	6		1	5	3	4
			7				6	3	7			1	1	3	5		1	8	3	3
			8				7	3	7			1	3	3	4		1	11	3	2
			9				8	3	7			1	5	3	4		2	2	3	1
			10				9	3	6			1	7	3	3		2	5	3	
			20			1	7	3	3			3	3	2	6		4	11	2	
		1				2	6					5					7	6		
		2				5	0				10						15	0		
		3				7	6				15			1	2	6				
		4			10	0			1	0				1	10	0				
		5			12	6			1	5				1	17	6				
		6			15	0			1	10				2	5	0				
		7			17	6			1	15				2	12	6				
		8			1	0	0		2	0				3	0	0				
		9			1	2	6		2	5				3	7	6				
		10			1	5	0		2	10				3	15					
		20			2	10			5					7	10					
	1				5				10					15						
	2				10				20					30						
	3				15				30					45						
1					20				40					60						
2					40				80					120						
3					60				120					180						
4					80				160					240						
5					100				200					300						
6					120				240					360						
7					140				280					420						
8					160				320					480						
9					180				360					540						
10					200				400					600						
20					400				800					1200						
40					800				1600					2400						
60					1200				2400					3600						
80					1600				3200					4800						
100					2000				4000					6000						

TABLE V.

FOR ASCERTAINING THE NUMBER OF YARDS, FEET,
AND INCHES, IN ANY NUMBER OF THE LINKS OF
THE IMPERIAL CHAIN.

Links.	Yds.	Ft.	In.	Links.	Yds.	Ft.	In.	Links.	Yds.	Ft.	In.
1	0	0	7.92*	35	7	2	1.2	69	15	0	6.48
2	0	1	3.84	36	7	2	9.12	70	15	1	2.4
3	0	1	11.76	37	8	0	5.04	71	15	1	10.32
4	0	2	7.68	38	8	1	0.96	72	15	2	6.24
5	1	0	3.6 †	39	8	1	8.88	73	16	0	2.16
6	1	0	11.52	40	8	2	4.8	74	16	0	10.08
7	1	1	7.44	41	9	0	0.72	75	16	1	6
8	1	2	3.36	42	9	0	8.64	76	16	2	1.92
9	1	2	11.28	43	9	1	4.56	77	16	2	9.84
10	2	0	7.2	44	9	2	0.48	78	17	0	5.76
11	2	1	3.12	45	9	2	8.4	79	17	1	1.68
12	2	1	11.04	46	10	0	4.32	80	17	1	9.6
13	2	2	6.96	47	10	1	0.24	81	17	2	5.52
14	3	0	2.88	48	10	1	8.16	82	18	0	1.44
15	3	0	10.8	49	10	2	4.08	83	18	0	9.36
16	3	1	6.72	50	11	0	0	84	18	1	5.28
17	3	2	2.64	51	11	0	7.92	85	18	2	1.2
18	3	2	10.56	52	11	1	3.84	86	18	2	9.12
19	4	0	6.48	53	11	1	11.76	87	19	0	5.04
20	4	1	2.4	54	11	2	7.68	88	19	1	0.96
21	4	1	10.32	55	12	0	3.6	89	19	1	8.88
22	4	2	6.24	56	12	0	11.52	90	19	2	4.8
23	5	0	2.16	57	12	1	7.44	91	20	0	0.72
24	5	0	10.08	58	12	2	3.36	92	20	0	8.64
25	5	1	6	59	12	2	11.28	93	20	1	4.56
26	5	2	1.92	60	13	0	7.2	94	20	2	0.48
27	5	2	9.84	61	13	1	3.12	95	20	2	8.4
28	6	0	5.76	62	13	1	11.04	96	21	0	4.32
29	6	1	1.68	63	13	2	6.96	97	21	1	0.24
30	6	1	9.6	64	14	0	2.88	98	21	1	8.16
31	6	2	5.52	65	14	0	10.8	99	21	2	4.08
32	7	0	1.44	66	14	1	6.72	100	22	0	0
33	7	0	9.36	67	14	2	2.64				
34	7	1	5.28	68	14	2	10.56				

* 100 parts of an inch.

† 10 parts of an inch.

LAND MEASURING.

TO FIND THE QUANTITY OF LAND IN DRILLS.

RULE.—Multiply the length by the breadth of the drill, in inches, and divide by 36; the quotient will be the contents in the same denomination as that of the length, which, if required, may be brought to a higher or lower denomination.

Ex.—Required the quantity of land in a drill $10\frac{1}{4}$ chains (imperial) long, and 28 inches broad?

$10\frac{1}{4}$ Imperial chains, equal to $225\frac{1}{2}$ yards.—(See *preceding Table*.) Then $225\frac{1}{2}$ multiplied by 28 (the breadth of the drill in inches), is 6314, which, divided by 36, gives $175\frac{1}{3}$ square yards, the contents of the drill in yards, which, divided by $30\frac{1}{4}$, gives 5 poles, 24 yards, 1 foot.

To find the Contents from the Table:—Look for the length in the left hand column, and for the breadth at the top; then under the breadth, and directly opposite the length, the contents will be found. When the given length cannot be found in the Table, the contents may be found by means of taking the contents of two or more lengths, such as make the given length; the sum of their contents will be that of the given length.

N.B.—It will sometimes be seen that the contents found by the rule will exceed that in the Table; this is on account of not extending the Table to inches, &c.

TABLE VI.

DRILLS.

Length.	Breadth 25 Inches.			Breadth 26 Inches.			Breadth 27 Inches.			Breadth 28 Inches.		
Yds.	Po.	Yd.	Ft.	Po.	Yd.	Ft.	Po.	Yd.	Ft.	Po.	Yd.	Ft.
1	0	0	6	0	0	6	0	0	6	0	0	6
2	0	1	3	0	1	3	0	1	4	0	1	4
3	0	2	0	0	2	1	0	2	2	0	2	2
4	0	2	6	0	2	7	0	3	0	0	3	0
5	0	3	4	0	3	5	0	3	6	0	3	7
6	0	4	1	0	4	2	0	4	4	0	4	5
7	0	4	7	0	5	0	0	5	2	0	5	3
8	0	5	4	0	5	6	0	6	0	0	6	1
9	0	6	2	0	6	4	0	6	6	0	6	8
10	0	6	8	0	7	1	0	7	4	0	7	6
20	0	13	8	0	14	3	0	15	0	0	15	4
30	0	20	7	0	21	5	0	22	4	0	23	2
40	0	27	7	0	28	7	0	30	0	1	0	7
50	1	4	4	1	5	7	1	7	2	1	8	5
60	1	11	3	1	13	0	1	14	6	1	16	3
70	1	18	3	1	20	2	1	22	2	1	24	1
80	1	25	2	1	27	4	1	29	6	2	1	6
90	2	2	0	2	4	4	2	7	0	2	9	4
100	2	8	8	2	11	6	2	14	4	2	17	2
200	4	17	7	4	23	3	4	29	0	5	4	2
300	6	26	7	7	4	7	7	13	2	7	21	5
400	9	5	4	9	16	4	9	27	6	10	8	5
500	11	14	4	11	28	1	12	12	0	12	25	7
600	13	23	3	14	9	6	14	26	4	15	12	8
700	16	1	8	16	21	3	17	10	6	17	30	1
800	18	10	8	19	2	7	19	25	2	20	17	1
900	20	19	8	21	14	4	22	9	4	23	4	2
1000	22	28	8	23	26	4	24	24	0	25	21	4

Length.	Breadth 29 Inches.			Breadth 30 Inches.			Breadth 31 Inches.			Breadth 32 Inches.		
Yds.	Po.	Yd.	Ft.	Po.	Yd.	Ft.	Po.	Yd.	Ft.	Po.	Yd.	Ft.
1	0	0	7	0	0	7	0	0	7	0	0	7
2	0	1	5	0	1	5	0	1	6	0	1	6
3	0	2	3	0	2	4	0	2	5	0	2	5
4	0	3	1	0	3	2	0	3	3	0	3	4
5	0	4	0	0	4	1	0	4	2	0	4	3
6	0	4	7	0	4	8	0	5	1	0	5	2
7	0	5	5	0	5	7	0	6	0	0	6	1
8	0	6	3	0	6	5	0	6	7	0	7	0
9	0	7	2	0	7	4	0	7	6	0	7	8
10	0	8	0	0	8	2	0	8	5	0	8	7
20	0	16	0	0	16	5	0	17	1	0	17	6
30	0	24	1	0	24	8	0	25	7	0	26	5
40	1	1	8	1	3	0	1	4	1	1	5	2
50	1	10	0	1	11	3	1	12	7	1	14	1
60	1	18	0	1	19	6	1	21	3	1	23	0
70	1	26	1	1	28	0	1	30	0	2	1	6
80	2	3	8	2	6	1	2	8	3	2	10	5
90	2	11	8	2	14	4	2	16	8	2	19	4
100	2	20	0	2	22	7	2	25	5	2	28	3
200	5	9	7	5	15	3	5	20	8	5	26	4
300	7	29	8	8	8	0	8	16	2	8	24	5
400	10	19	6	11	0	5	11	11	5	11	22	6
500	13	9	4	13	23	4	14	7	0	14	20	7
600	15	29	5	16	16	0	17	2	3	17	18	8
700	18	19	3	19	8	5	19	27	8	20	17	0
800	21	9	1	22	1	2	22	23	2	23	15	2
900	23	29	1	24	24	0	25	18	6	26	13	3
1000	26	19	0	27	16	6	28	14	0	29	11	4

Length.	Breadth 33 Inches.			Breadth 34 Inches.			Breadth 35 Inches.			Breadth 36 Inches.		
Yds.	Po.	Yd.	Ft.	Po.	Yd.	Ft.	Po.	Yd.	Ft.	Po.	Yd.	Ft.
1	0	0	8	0	0	8	0	0	8	0	1	0
2	0	1	7	0	1	7	0	1	8	0	2	0
3	0	2	6	0	2	7	0	2	8	0	3	0
4	0	3	5	0	3	6	0	3	7	0	4	0
5	0	4	5	0	4	6	0	4	7	0	5	0
6	0	5	4	0	5	5	0	5	7	0	6	0
7	0	6	3	0	6	5	0	6	7	0	7	0
8	0	7	2	0	7	4	0	7	6	0	8	0
9	0	8	2	0	8	4	0	8	6	0	9	0
10	0	9	1	0	9	3	0	9	6	0	10	0
20	0	18	2	0	18	7	0	19	3	0	20	0
30	0	27	4	0	28	2	0	29	1	0	30	0
40	1	6	3	1	7	4	1	8	5	1	9	6
50	1	15	5	1	16	8	1	18	3	1	19	6
60	1	24	6	1	26	3	1	28	0	1	29	6
70	2	3	5	2	5	5	2	7	4	2	9	4
80	2	12	7	2	15	0	2	17	2	2	19	4
90	2	21	8	2	24	4	2	26	8	2	29	4
100	3	0	8	3	3	6	3	6	3	3	9	2
200	6	1	7	6	7	3	6	12	7	6	18	4
300	9	2	6	9	11	0	9	19	2	9	27	6
400	12	3	5	12	14	6	12	25	6	13	6	6
500	15	4	4	15	18	4	16	1	7	16	16	0
600	18	5	3	18	22	1	19	8	2	19	25	2
700	21	6	3	21	25	7	22	14	6	23	4	2
800	24	7	2	24	29	4	25	21	1	26	13	4
900	27	8	1	28	2	8	28	27	4	29	22	6
1000	30	9	0	31	6	6	32	3	6	33	1	6

Ex.—If a field measures 20 acres 3 roods Scotch, how many Imperial acres are in it?

	A.	R.
4356000 : 5493715 ::	20	3
	83	4
	16481145	83
	43949720	
		4
4356000)455978345(104 roods.		
	4356000	
		26 ac. 0 ro. 27 po. $3\frac{9}{10}$ yds. Answer.
	20378345	
	17424000	
	2954345	
	40	
4356000)118173800(27		
	8712000	
	31053800	
	30492000	
	561800	
	30 $\frac{1}{4}$	
	16854000	
	140450	
4356000)16994450(3		
	13068000	
	3926450	

To convert Imperial measure into Scotch :

RULE.—As the square of the length of the Scotch chain is to the square of the length of the Imperial so are the Imperial acre or acres to the Scotch.

To find the value of an Imperial acre compared with that of a Scotch acre.

RULE.—As the square of the Scotch chain is to the square of the Imperial chain, so is the value of the

44 TO CONVERT SCOTCH ACRES, &c. INTO IMPERIAL.

Scotch acre to the value of the Imperial acre. Or, using the Scotch *Standard* chain 74.1196 feet long:—As 5493715 is to 4356000, so is the value of the Scotch acre to that of the Imperial.

Ex.—If a farm is let at £3 per Scotch acre, how much is that the Imperial acre?

$$5493715 : 4356000 :: \begin{matrix} \text{£} \\ 3 \end{matrix} : \begin{matrix} \text{£} & \text{s.} & \text{d.} \\ 2 & 7 & 6\frac{3}{4} \end{matrix} \text{ Answer.}$$

It is required to find from the Table the number of Imperial acres equal to 15 Scotch acres.

Look in the column marked Scotch measure for 10, and in the column marked Imperial measure, opposite to 10, you will find the Imperial acres equal to 10 Scotch acres. The Imperial acres equal to 5 Scotch acres are to be found in the same way. Thus,

		IM.			
		A.	R.	P.	Y.
10 Scotch acres are	=	12	2	17	27
5 Do. do.	=	6	1	8	28 $\frac{6}{16}$
15	=	18	3	26	25 $\frac{7}{16}$

TABLE VII.

CONVERTING SCOTCH ACRES INTO IMPERIAL, WITH
THEIR COMPARATIVE VALUES PER ACRE.

The Scotch Chain used in this Table is that of 74.1196 feet long.

Scotch Meas.	Imperial Measure.					Value per Scotch Acre.			Equivalent Value per Imperial Acre.				
AC.	AC.	R.	P.	YD.	10th	£	s.	d.	£	s.	d.	Qrs.	10th
1	1	1	1	23	9			6				4	3
2	2	2	3	17	5		1					9	2
3	3	3	5	11	1		2			1		7	
4	5	0	7	4	8		3			2		4	2 1
5	6	1	8	28	6		4			3		2	0 2
6	7	2	10	22	3		5			3		11	2 2
7	8	3	12	15	9		6			4		9	0 3
8	10	0	14	9	5		7			5		6	2 4
9	11	1	16	3	2		8			6		4	0 4
10	12	2	17	27	0		9			7		1	2 5
20	25	0	35	23	8		10			7		11	0 5
30	37	3	13	20	6	1				15		10	1 1
40	50	1	31	17	4	2			1	11		8	2 3
50	63	0	9	14	2	3			2	7		6	3 4
60	75	2	27	10	9	4			3	3		5	0 6
70	88	1	5	7	7	5			3	19		3	1 8
80	100	3	23	4	5	6			4	15		1	2 9
90	113	2	1	1	3	7			5	11		0	0 1
100	126	0	18	28	3	8			6	6		10	1 2
200	252	0	37	26	4	9			7	2		8	2 4
300	378	1	16	24	4	10			7	18		6	3 6
400	504	1	35	22	5	20			15	17		1	3 2
500	630	2	14	20	5	30			23	15		8	2 8
600	756	2	33	18	6	40			31	14		3	2 4
700	882	3	12	16	6	50			39	12		10	2 0
800	1008	3	31	14	7	60			47	11		5	1 6
900	1135	0	10	12	7	70			55	10		0	1 2
1000	1261	0	29	10	7	80			63	8		7	0 8
2000	2522	1	18	21	3	90			71	7		2	0 4
3000	3783	2	8	1	7	100			79	5		9	0 0

TO CONVERT SCOTCH ACRES INTO IMPERIAL.

RULE.—As the square of the Imperial chain (66 feet) is to the square of the Scotch chain ($74\frac{2}{5}$ feet), so are the Scotch acre or acres to the Imperial. Or,

As 435600 is to 553536, so are the Scotch acre or acres, &c., to the Imperial.

Ex.—In 510 Scotch acres, how many Imperial acres?

		S. A.
435600	: 553536	: : 510
	510	
	553536	
	2767680	
435600)	282303360	A. R. P. Y.
	2613600	648 0 12 21 Imp.
	2094336	
	1742400	
	3519360	
	3484800	
	34560	
	4	
435600)	138240	(0
	40	
435600)	5529600	(12
	435600	
	1173600	
	871200	
	302400	
	30	$\frac{1}{4}$
	9072000	
	75600	
435600)	9147600	(21
	871200	
	435600	
	435600	
	0	

To find the value of an Imperial acre, compared with that of a Scotch, using the Scotch chain of $74\frac{2}{3}$ feet long:—

RULE.—As the square of the Scotch chain is to the square of the Imperial chain, so is the value of the Scotch acre to the value of the Imperial acre. Or,

As 553536 is to 435600, so is the value of a Scotch acre to that of an Imperial.

EX.—If an undertaker engages to reap a field at 10s. per Scotch acre, how much is that per Imperial acre?

$$553536 : 435600 :: \overset{s.}{10} : \overset{s.}{7} \overset{d.}{10\frac{1}{4} \frac{7}{16}}. \quad \text{Answer.}$$

TABLE VIII.

CONVERTING SCOTCH ACRES INTO IMPERIAL, WITH
THEIR COMPARATIVE VALUES PER ACRE.

The Scotch Chain used in this Table is that of 74 $\frac{2}{3}$ feet long.

Scotch Meas.	Imperial Measure.					Value per Scotch Acre.			Equivalent Value per Imperial Acre.				
	AC.	AC.	R.	P.	YD. 10th	£	s.	d.	£	s.	d.	Qr.	10th
1	1	1	3	9	6			6			4	2	9
2	2	2	6	19	3		1				9	1	8
3	3	3	9	28	9		2			1	6	3	5
4	5	0	13	8	3		3			2	4	1	3
5	6	1	16	17	9		4			3	1	3	0
6	7	2	19	27	6		5			3	11	0	9
7	8	3	23	7	0		6			4	8	2	6
8	10	0	26	16	7		7			5	6	0	4
9	11	1	29	26	3		8			6	3	2	1
10	12	2	33	5	7		9			7	0	3	9
20	25	1	26	11	5		10			7	10	1	7
30	38	0	19	17	1	1				15	8	3	5
40	50	3	12	22	9	2			1	11	5	3	0
50	63	2	5	28	7	3			2	7	2	2	5
60	76	0	39	4	2	4			3	2	11	2	0
70	88	3	32	9	9	5			3	18	8	1	5
80	101	2	25	15	4	6			4	14	5	1	0
90	114	1	18	21	5	7			5	19	2	0	5
100	127	0	11	27	2	8			6	5	11	0	0
200	254	0	23	24	2	9			7	1	7	3	5
300	381	0	35	21	1	10			7	17	4	3	
400	508	1	7	18	2	20			15	14	9	2	
500	635	1	19	15	1	30			23	12	2	1	
600	762	1	31	12	2	40			31	9	7	0	
700	889	2	3	9	2	50			39	6	11	3	
800	1016	2	15	6	2	60			47	14	4	2	
900	1143	2	27	3	2	70			55	1	9	1	
1000	1270	2	39	0	2	80			62	19	2	0	
2000	2541	1	38	0	5	90			70	16	6	3	
3000	3812	0	37	0	8	100			78	13	11	2	

TO ASCERTAIN THE NUMBER OF CABBAGES, TREES, &c.
THAT MAY BE PLANTED IN A QUANTITY OF GROUND
AT ANY GIVEN DISTANCE.

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RULE.—Reduce the quantity of land to be planted to the denomination of the given distance, then divide the quantity thus reduced by the square of the given distance.

Ex.—How many trees will be required to plant 2 ac. 2 ro. 20 po. at 2 feet distant?

	A.	R.	P.
2	2	2	20
2	4		
<hr/> 4	10		
	40		
	<hr/> 420		
	30 $\frac{1}{4}$		
	<hr/> 12600		
	105		
	<hr/> 12705		
	9		
	<hr/> 4)114345		
	28586 $\frac{1}{4}$		

the number required.

*To find the Number of Trees from the Table :—*Look in the right hand column for the quantity of land, and at the top of one or other of the columns on the right hand of it for the distance; then under that, and opposite to the quantity of land, you will find the number of trees.

N.B.—When the quantity to be planted consists of several denominations, the number of trees found in the Table will sometimes differ a little from that found by the above rule; this is on account of only taking one decimal place.

TABLE IX.

SHOWING THE NUMBER OF CABBAGES, TREES, &c.

Quantity of Land.				Distance, 1 Foot.	Distance, 1½ Feet.	Distance, 2 Feet.	Distance, 2½ Feet.	Distance, 3 Feet.
A.	R.	P.	Y.	No. Ts. 10th	No. Ts. 10th	No. Ts. 10th	No. Ts. 10th	No. Ts. 10th
			10	90 0	40 0	22 5	14 4	10 0
			15	135 0	60 0	33 7	21 6	15 0
			20	180 0	80 0	45 0	28 8	20 0
		1		272 2	121 0	68 0	43 5	30 2
		2		544 5	242 0	136 1	87 1	60 5
		3		816 7	363 0	204 1	130 6	90 7
		4		1089 0	484 0	272 2	174 2	121 0
		5		1361 2	605 0	340 3	217 8	151 2
		6		1633 5	726 0	408 3	261 3	181 5
		7		1905 7	847 0	576 4	304 9	211 7
		8		2178 0	968 0	544 4	348 4	242 0
		9		2450 2	1089 0	612 5	392 0	272 2
		10		2722 5	1210 0	680 6	435 6	302 5
		20		5445 0	2420 0	1361 2	871 2	605 0
	1			10890 0	4840 0	2722 4	1742 4	1210 0
	2			21780 0	9680 0	5444 9	3484 8	2420 0
	3			32670 0	14520 0	8167 4	5227 2	3630 0
1				43560 0	19360 0	10889 9	6969 6	4840 0
2				87120 0	38720 0	21779 8	13939 2	9680 0
3				130680 0	58080 0	32669 7	20908 8	14520 0
4				174240 0	77440 0	43559 6	27878 4	19360 0
5				217800 0	96800 0	54449 6	34848 0	24200 0
6				261360 0	116160 0	65339 5	41817 6	29040 0
7				304920 0	135520 0	76229 4	48787 2	33880 0
8				340480 0	154880 0	87119 3	55756 8	38720 0
9				392040 0	174240 0	98009 2	62726 4	43560 0
10				435600 0	193600 0	108899 2	69696 0	48400 0
20				871200 0	387200 0	217798 4	139392 0	96800 0
40				1742400 0	774400 0	435596 8	268684 0	193600 0
60				2613600 0	1161600 0	653395 2	418176 0	290400 0
80				3484800 0	1548800 0	871193 6	557568 0	387200 0
100				4356000 0	1936000 0	1088992 0	696960 0	484000 0

Quantity of Land.				Distance, 3½ Feet.	Distance, 4 Feet.	Distance, 4½ Feet.
A.	R.	P.	Y.	No. Trees 10th	No. Trees 10th	No. Trees 10th
			10	7 3	5 6	4 4
			15	11 0	8 4	6 6
			20	14 6	11 2	8 8
		1		22 2	17 0	13 4
		2		44 4	34 0	26 8
		3		66 6	51 0	40 3
		4		88 8	68 0	53 7
		5		111 1	85 0	67 2
		6		133 3	102 0	80 6
		7		155 5	119 1	94 1
		8		177 7	136 1	107 5
		9		199 9	153 1	120 9
		10		222 2	170 1	134 4
		20		444 4	340 3	268 8
	1			888 8	680 6	537 7
	2			1777 6	1361 2	1075 4
	3			2666 5	2041 8	1613 1
1				3555 9	2722 5	2151 1
2				7111 8	5445 9	4302 2
3				10667 7	8167 5	6453 3
4				14223 6	10890 0	8604 4
5				17779 5	13612 5	10755 5
6				21334 4	16335 0	12906 6
7				24891 3	19057 5	15057 7
8				28447 2	21770 0	17208 8
9				32003 1	24502 5	19359 9
10				35559 0	27225 0	21511 1
20				71118 0	54450 0	43022 2
40				142236 0	108900 0	86044 4
60				213354 0	163350 0	129066 6
80				284472 0	217800 0	172088 8
100				355590 0	272250 0	215111 1

Quantity of Land.				Distance, 5 Feet.	Distance, 5½ Feet.	Distance, 6 Feet.
A.	R.	P.	Y.	No. Trees 10th	No. Trees 10th	No. Trees 10th
			10	3 6	2 9	2 5
			15	5 3	4 4	3 7
			20	7 0	5 9	5 0
		1		10 8	8 9	7 5
		2		21 7	17 9	15 1
		3		32 6	26 9	22 6
		4		43 5	35 9	30 2
		5		54 4	44 9	37 8
		6		65 3	53 9	45 3
		7		76 2	62 9	52 9
		8		87 1	71 9	60 5
		9		98 0	80 9	68 0
		10		108 9	89 9	75 6
		20		217 8	179 9	151 2
	1			435 6	359 9	302 5
	2			871 2	719 9	605 0
	3			1306 8	1079 9	907 5
1				1742 4	1440 0	1210 0
2				3484 8	2880 0	2420 0
3				5227 2	4320 0	3630 0
4				6969 6	5760 0	4840 0
5				8712 0	7200 0	6050 0
6				10454 0	8640 0	7260 0
7				12196 8	10080 0	8470 0
8				13939 2	11520 0	9680 0
9				15681 6	12960 0	10890 0
10				17424 0	14400 0	12100 0
20				34848 0	28800 0	24200 0
40				69696 0	57600 0	48400 0
60				104544 0	86400 0	72600 0
80				139392 0	115200 0	96800 0
100				174240 0	144000 0	121000 0

SOLID MEASURE.

TO MEASURE BROKEN METAL FOR ROADS.

Before proceeding directly to give a rule for this, it may first be remarked, that metal for roads is generally undertaken to be broken at so much per 16 solid feet, to which quantity the term ton has been applied. So, when speaking or writing of breaking metal at so much per ton, it is not to be understood a ton weight, but only 16 solid or cubic feet, whatever the real weight of that quantity may be.

To ascertain the number of such tons in any quantity of broken metal, of a square or oblong form :—

RULE.—When the length and breadth are greater at the ground than at the top (which will in general be the case), take the length both at the ground and top, add these together, and divide their sum by 2 for the mean length; find the mean breadth in the same way, and if it seems to be of an unequal depth, take several depths, add these together; their sum, divided by the number of depths taken, will give the mean depth. Having thus found the dimensions in feet and inches, multiply the length by the breadth, and their product by the depth; this last product, divided by 16, will give the number of tons.

Or more simply thus—

Having found the dimensions, as above directed, reduce them all to inches, then multiply the breadth by the depth, and their product by the length; this last pro-

duct, divided by 1728, will give its contents in solid feet ; and these, divided by 16, will give the number of tons.

Ex.—Required the number of tons in a heap of broken metal, its length at the ground being 9 feet 4 inches, and at the top 8 feet 10 inches ; its breadth at the top 6 feet 2 inches, and at the ground 6 feet 10 inches ; and depths 2 feet 6 inches, 2 feet 9, and 3 feet.

FT. IN.	FT. IN.	FT. IN.
9 4	6 2	2 6
8 10	6 10	2 9
<hr/>	<hr/>	<hr/>
2)18 2	2)13 0	3 0
<hr/>	<hr/>	<hr/>
9 1 mean length.	6 6 mean breadth.	3)8 3
6 6	mean depth,	2 9
<hr/>		<hr/>
54 6	OR	
4 6 6	9 feet 1 inch equal to	109 inches.
<hr/>	6 feet 6 inches „	78
59 0 6		<hr/>
2 9		872
<hr/>		<hr/>
118 1 0		763
<hr/>		<hr/>
44 3 4 6		8502
<hr/>		<hr/>
16)162 4 4 6	2 feet 6 inches equal to 33	
<hr/>		<hr/>
10 $\frac{3}{8}$ tons nearly.		25506
		<hr/>
		25506
		<hr/>
		1728)280566
		<hr/>
		16)162 $\frac{4}{16}$ feet nearly.
		<hr/>
		10 $\frac{3}{8}$ tons nearly.

*To find the Number of Tons from the Table:—*Look in the left hand column for the length, and for the breadth and depth in the first and second columns, right of the former, and in the next right of these, and in the same line with them, is the number of tons.

TABLE X.

BROKEN METAL.

Lgth.	Bdth.	Dpth.	Weight.		Lgth.	Bdth.	Dpth.	Weight.	
Feet.	Inch.	Inch.	Tons.	10th	Feet.	Inch.	Inch.	Tons.	10th
7	43	17	2	2	11	55	21	5	5
	44	18	2	4		56	22	5	9
	45	19	2	6		57	23	6	3
	46	20	2	8		58	24	6	6
	47	21	3	0		59	25	7	0
	48	22	3	2		60	26	7	4
	49	23	3	4		61	27	7	9
	50	24	3	6		62	28	8	3
8	43	17	2	5	12	52	16	4	3
	44	18	2	8		53	17	4	7
	45	19	3	0		54	18	5	0
	46	20	3	2		55	19	5	4
	47	21	3	4		56	20	5	8
	48	22	3	7		57	21	6	2
	49	23	3	9		58	22	6	7
	50	24	4	2		59	23	7	1
9	48	14	2	6	13	60	24	7	5
	49	15	2	9		61	25	8	0
	50	16	3	1		62	26	8	3
	51	17	3	4		63	27	8	8
	52	18	3	6		64	28	9	3
	53	19	3	9		54	18	5	5
	55	20	4	3		55	19	6	0
	56	21	4	6		56	20	6	3
11	57	22	4	9	14	57	21	6	8
	58	23	5	2		58	22	7	2
	59	24	5	5		59	23	7	7
	60	25	5	9		60	24	8	1
	50	16	3	8		61	25	8	6
	51	17	4	1		62	26	9	1
	52	18	4	5		63	27	9	5
	53	19	4	8		64	28	10	1
	54	20	5	2		54	18	5	7

Lgth.	Bdth.	Dpth.	Weight.		Lgth.	Bdth.	Dpth.	Weight.	
Feet.	Inch.	Inch.	Tons.	10th	Feet.	Inch.	Inch.	Tons.	10th
14	55	19	6	3	17	58	22	9	4
	56	20	6	8		59	23	10	0
	57	21	7	3		60	24	10	6
	58	22	7	8		61	25	11	3
	59	23	8	2		62	26	11	9
	60	24	8	8		63	27	12	5
	61	25	9	3		64	28	13	2
	62	26	9	8		65	29	13	9
	63	27	10	3		66	30	14	6
	64	28	10	9	18	54	18	7	7
15	54	18	6	3		55	19	8	2
	55	19	6	8		56	20	8	8
	56	20	7	3		57	21	9	4
	57	21	7	9		58	22	10	0
	58	22	8	3		59	23	10	6
	59	23	8	8		60	24	11	3
	60	24	9	4		61	25	11	9
	61	25	9	9		62	26	12	6
	62	26	10	5		63	27	13	3
	63	27	11	1		64	28	14	0
16	64	28	11	7		65	29	14	8
	54	18	6	8	19	66	30	15	6
	55	19	7	3		60	20	9	9
	56	20	7	8		61	21	10	6
	57	21	8	3		62	22	11	2
	58	22	8	9		63	23	12	0
	59	23	9	4		64	24	12	7
	60	24	10	0		65	25	13	4
	61	25	10	6		66	26	14	1
	62	26	11	2		67	27	14	9
	63	27	11	8		68	28	15	7
17	64	28	12	4	20	69	29	16	5
	65	29	13	1		70	30	17	3
	66	30	13	8		60	20	10	4
	54	18	7	2		61	21	11	1
	55	19	7	7		62	22	11	8
	56	20	8	3		63	23	12	6
	57	21	8	8		64	24	13	3

Lgth.	Bdth.	Dpth.	Weight.		Lgth.	Bdth.	Dpth.	Weight.	
Feet.	Inch.	Inch.	Tons.	10th	Feet.	Inch.	Inch.	Tons.	10th
20	65	25	14	1	24	62	22	14	2
	66	26	14	9		63	23	15	1
	67	27	15	7		64	24	16	0
	68	28	16	5		65	25	16	9
	69	29	17	3		66	26	17	9
	70	30	18	2		67	27	18	8
21	60	20	10	9	25	68	28	19	8
	61	21	11	7		69	29	20	8
	62	22	12	5		70	30	21	9
	63	23	13	2		71	31	22	9
	64	24	14	0		72	32	24	0
	65	25	14	8		62	22	14	8
22	66	26	15	6	26	63	23	15	7
	67	27	16	5		64	24	16	8
	68	28	17	4		65	25	17	6
	69	29	18	2		66	26	18	7
	70	30	19	1		67	27	19	6
	61	20	11	6		68	28	20	7
23	62	21	12	4	27	69	29	21	7
	63	22	13	2		70	30	22	8
	64	23	14	1		71	31	23	9
	65	24	14	9		72	32	25	0
	66	25	15	8		62	22	15	5
	67	26	16	6		63	23	16	4
	68	27	17	5		64	24	17	4
	69	28	18	4		65	25	18	4
	70	29	19	4		66	26	19	4
	71	30	20	3		67	27	20	4
	62	22	13	5		68	28	21	5
	63	23	14	5		69	29	22	6
	64	24	15	3		70	30	23	8
	65	25	16	2		71	31	24	8
	66	26	17	1		72	32	26	0
	67	27	18	0		62	22	16	0
	68	28	19	0		63	23	17	0
	69	29	20	0		64	24	18	0
	70	30	21	1		65	25	19	0
	71	31	22	0		66	26	20	1

Lgth.	Bdth.	Dpth.	Weight.		Lgth.	Bdth.	Dpth.	Weight.	
Feet.	Inch.	Inch.	Tons.	10th	Feet.	Inch.	Inch.	Tons.	10th
27	67	27	21	2	30	82	32	34	2
	68	28	22	3		83	33	35	7
	69	29	23	5		84	34	37	2
	70	30	24	6		85	35	38	7
	71	31	25	8		86	36	40	3
28	72	32	27	0	32	96	24	32	0
	62	22	16	6		97	25	33	7
	63	23	17	6		98	26	35	4
	64	24	18	7		99	27	37	1
	65	25	19	7		100	28	38	9
29	66	26	20	9	33	101	29	40	7
	67	27	22	0		102	30	42	5
	68	28	23	1		103	31	44	4
	69	29	24	3		104	32	46	2
	70	30	25	5		105	33	48	1
30	71	31	26	8	34	106	34	50	0
	72	32	28	0		107	35	52	4
	72	22	20	0		108	36	54	6
	73	23	21	2		96	24	33	0
	74	24	22	4		97	25	34	7
	75	25	23	6		98	26	36	4
	76	26	24	8		99	27	38	3
	77	27	26	0		100	28	40	1
	78	28	27	5		101	29	42	0
	79	29	28	8		102	30	43	8
	80	30	30	2		103	31	45	6
	81	31	31	6		104	32	47	7
	82	32	33	0		105	33	49	6
	83	33	34	5		106	34	51	6
	84	34	35	9		107	35	53	6
	74	24	23	1		108	36	55	7
	75	25	24	4		96	24	34	0
	76	26	25	7		97	25	35	7
	77	27	27	0		98	26	37	6
	78	28	28	4		99	27	39	5
	79	29	29	8		100	28	41	3
	80	30	31	2		101	29	43	2
	81	31	32	7		102	30	45	1

Lgth.	Bdth.	Dpth.	Weight.		Lgth.	Bdth.	Dpth.	Weight.	
Feet.	Inch.	Inch.	Tons.	10th	Feet.	Inch.	Inch.	Tons.	10th
34	103	31	47	1	39	118	28	55	9
	104	32	49	1		119	29	58	4
	105	33	51	1		120	30	60	8
	106	34	53	2		121	31	63	5
	107	35	55	3		122	32	66	1
	108	36	57	4		123	33	68	7
36	102	24	38	3	40	124	34	71	4
	103	25	40	2		125	35	74	1
	104	26	42	3		126	36	76	8
	105	27	44	3		120	24	50	0
	106	28	46	4		121	25	52	5
	107	29	48	5		122	26	55	1
	108	30	50	6		123	27	57	7
	109	31	52	8		124	28	60	3
	110	32	55	0		125	29	62	9
	111	33	57	2		126	30	65	6
	112	34	59	5		127	31	68	3
	113	35	61	8		128	32	71	1
38	114	36	64	1		129	33	73	9
	108	24	42	8		130	34	76	7
	109	25	45	0		131	35	79	6
	110	26	47	2		132	36	82	5
	111	27	49	4		133	24	55	4
	112	28	51	7		134	25	58	2
	113	29	54	0		135	26	60	9
	114	30	56	4		136	27	63	8
	115	31	58	8		137	28	66	6
	116	32	61	2		138	29	69	5
	117	33	63	7		139	30	72	4
	118	34	66	2		140	31	75	3
39	119	35	68	7		141	32	78	4
	120	36	71	3		142	33	81	4
	114	24	46	3		143	34	84	4
	115	25	48	7		144	35	87	5
	116	26	51	0		144	36	90	0
	117	27	53	5					

SOLID MEASURE.

TO MEASURE DRAINS OR DITCHES.

RULE.—Take the width at the top and bottom, add these together, their sum divided by 2 will give the mean width; then multiply the width, perpendicular height, and length together; their product, divided by 27 (the dimensions being taken in feet and inches), will give the contents in cubic yards, &c.

Ex.—How many cubic yards are there in a ditch 120 yards long, 7 feet wide at the top, 2 feet at the bottom, and 5 feet deep?

120 yards equal to 360 feet; mean width 4 feet 6 inches.

Feet.	In.	
360	0	
4	6	
1440	0	
180	0	0
1620		
5		
27)	8100	
	300 cubic yards.	Answer.

To find the Contents from the Table:—Find the length in the left hand column, the depth and width in one of the columns on the right of it; then under the depth and width, and opposite to the length, are the contents in cubic yards, &c.

TABLE XI.

DRAINS, &c.

Length.		Depth $2\frac{1}{2}$ feet, mean width 1ft.10in.				Depth 3 feet, mean width 1ft.10in.				Depth $3\frac{1}{2}$ feet, mean width 2 ft.			
Yds.	Ft.	Yds.	Ft.	In.	12th	Yds.	Ft.	In.	12th	Yds.	Ft.	In.	12th
	1	0	4	7			5	6			7		
	2		9	6			11	0			14		
1			13	9			16	6			21		
2		1	0	6		1	6	0		1	15		
3		1	14	3		1	22	6		2	9		
4		2	1	0		2	12	0		3	3		
5		2	14	9		3	1	6		3	24		
6		3	1	6		3	18	0		4	18		
7		3	15	3		4	7	6		5	12		
8		4	2	0		4	24	0		6	6		
9		4	15	9		5	13	6		7	0		
10		5	2	6		6	3	0		7	21		
20		10	5			12	6	0		15	15		
40		20	10			24	12	0		31	3		
60		30	15			36	18	0		46	18		
80		40	20			48	24	0		62	6		
100		50	25			61	3	0		77	21		
200		101	23			122	6	0		155	15		
400		203	19			244	12	0		311	3		
800		407	11			488	24	0		622	6		
1000		509	7			611	3	0		777	21		

Length.		Depth 4 feet, mean width 2 ft.				Depth $4\frac{1}{2}$ feet, mean width 2 ft.				Depth 5 feet, mean width 2 ft. 3 in.			
Yds.	Ft.	Yds.	Ft.	In.	12th	Yds.	Ft.	In.	12th	Yds.	Ft.	In.	12th
	1		8				9				11	3	
	2		16				18				22	6	
1			24			1	0			1	6	9	
2		1	21			2	0			2	13	6	
3		2	18			3				3	20	3	
4		3	15			4				5	0	0	
5		4	12			5				6	6	9	
6		5	9			6				7	13	6	
7		6	6			7				8	20	3	
8		7	3			8				10	0	0	
9		8	0			9				11	6	9	
10		8	24			10				12	13	6	
20		17	21			20				25			
40		35	15			40				50			
60		53	9			60				75			
80		71	3			80				100			
100		88	24			100				125			
200		177	21			200				250			
400		355	15			400				500			
800		711	3			800				1000			
1000		888	24			1000				1250			

Length.		Depth 5 feet, mean width 2ft. 6in.				Depth 4 feet, mean width 3ft. 3in.				Depth 4½ feet, mean width 3ft. 6in.			
Yds.	Ft.	Yds.	Ft.	In.	12th	Yds.	Ft.	In.	12th	Yds.	Ft.	In.	12th
	1		12	6			13				15	9	
	2		25	0			26			1	4	6	
1		1	10	6		1	12			1	20	3	
2		2	21	0		2	24			3	13	6	
3		4	4	6		4	9			5	6	9	
4		5	15	0		5	21			7	0	0	
5		6	25	6		7	6			8	20	3	
6		8	9	0		8	18			10	13	6	
7		9	19	6		10	3			12	6	9	
8		11	3	0		11	15			14	0	0	
9		12	13	6		13	0			15	20	3	
10		13	24	0		14	12			17	13	6	
20		27	21	0		28	24			35	0	0	
40		55	15	0		57	21			70	0	0	
60		83	9			86	18			105	0	0	
80		111	3			115	15			140			
100		138	24			144	12			175			
200		277	21			288	24			350			
400		555	15			577	21			700			
800		1111	3			1155	15			1400			
1000		1388	24			1444	12			1750			

Length.		Depth $4\frac{1}{2}$ feet, mean width 3 ft. 9 in.				Depth $4\frac{1}{2}$ feet, mean width 4 ft.				Depth $4\frac{1}{2}$ feet, mean width 4 ft. 6 in.			
Yds.	Ft.	Yds.	Ft.	In.	12th	Yds.	Ft.	In.	12th	Yds.	Ft.	In.	12th
	1	0	16	10	6		18			0	20	3	
	2	1	6	9	0	1	9			1	13	6	
1		1	23	7	6	2	0			2	6	9	
2		3	20	3	0	4				4	13	6	
3		5	16	10	6	6				6	20	3	
4		7	13	6	0	8				9	0	0	
5		9	10	1	6	10				11	6	9	
6		11	6	9	0	12				13	13	6	
7		13	3	4	6	14				15	20	3	
8		15	0	0	0	16				18	0	0	
9		16	23	7	6	18				20	6	9	
10		18	20	3	0	20				22	13	6	
20		37	13	6	0	40				45	0	0	
40		75	0	0		80				90			
60		112	13	6		120				135			
80		150	0	0		160				180			
100		187	13	6		200				225			
200		375	0	0		400				450			
400		750	0	0		800				900			
800		1500	0	0		1600				1800			
1000		1875	0	0		2000				2250			

Length.		Depth 5 feet, mean width 4 ft.				Depth 5 feet, mean width 4 ft. 3 in.				Depth 5 feet, mean width 4 ft. 6 in.			
Yds.	Ft.	Yds.	Ft.	In.	12th	Yds.	Ft.	In.	12th	Yds.	Ft.	In.	12th
	1	0	20			0	21	3		0	22	6	
	2	1	13			1	15	6		1	18	0	
1		2	6			2	9	9		2	13	6	
2		4	12			4	19	6		5	0	0	
3		6	18			7	2	3		7	13	6	
4		8	24			9	12	0		10	0	0	
5		11	3			11	21	9		12	13	6	
6		13	9			14	4	6		15	0	0	
7		15	15			16	14	3		17	13	6	
8		17	21			18	24	0		20	0	0	
9		20	0			21	6	9		22	13	6	
10		22	6			23	16	6		25	0	0	
20		44	12			47	6	0		50			
40		88	24			94	12	0		100			
60		133	9			141	18	0		150			
80		177	21			188	24	0		200			
100		222	6			236	3	0		250			
200		444	12			472	6	0		500			
400		888	24			944	12	0		1000			
800		1777	21			1888	24	0		2000			
1000		2222	6			2361	3	0		2500			

Length.		Depth 5 feet, mean width 4 ft. 9 in.				Depth 5 feet, mean width 5 ft.				Depth 5½ feet, mean width 4 ft. 6 in.			
Yds.	Ft.	Yds.	Ft.	In.	12th	Yds.	Ft.	In.	12th	Yds.	Ft.	In.	12th
	1	0	23	9		0	25	0		0	24	9	
	2	1	20	6		1	23			1	22	6	
1		2	17	3		2	21			2	20	3	
2		5	7	6		5	15			5	13	6	
3		7	24	9		8	9			8	6	9	
4		10	15	0		11	3			11	0	0	
5		13	5	3		13	24			13	20	3	
6		15	22	6		16	18			16	13	6	
7		18	12	9		19	12			19	6	9	
8		21	3	0		22	6			22	0	0	
9		23	20	3		25	0			24	20	3	
10		26	10	6		27	21			27	13	6	
20		52	21	0		55	15			55	0	0	
40		105	15	0		111	3			110	0	0	
60		158	9	0		166	18			165			
80		211	3			222	6			220			
100		263	24			277	21			275			
200		527	21			555	15			550			
400		1055	15			1111	3			1100			
800		2111	3			2222	6			2200			
1000		2638	24			2777	21			2750			

Length.		Depth $5\frac{1}{2}$ feet, mean width 4 ft. 9 in.				Depth $5\frac{1}{2}$ feet, mean width 5 ft.				Depth 6 feet, mean width 4 ft.			
Yds.	Ft.	Yds.	Ft.	In.	12th	Yds.	Ft.	In.	12th	Yds.	Ft.	In.	12th
	1	0	26	1	6	1	0	6			24		
	2	1	25	3	0	2	1	0		1	21		
1		2	24	4	6	3	1	6		2	18		
2		5	21	9	0	6	3	0		5	9		
3		8	19	1	6	9	4	6		8	0		
4		11	16	6	0	12	6	0		10	18		
5		14	13	10	6	15	7	6		13	9		
6		17	11	3	0	18	9	0		16	0		
7		20	8	7	6	21	10	6		18	18		
8		23	6	0	0	24	12	0		21	9		
9		26	3	4	6	27	13	6		24	0		
10		29	0	9	0	30	15	0		26	18		
20		58	1	6	0	61	3	0		53	9		
40		116	3	0	0	122	6	0		106	18		
60		174	4	6	0	183	9	0		160	0		
80		232	6	0		244	12			213	9		
100		290	7	6		305	15			266	18		
200		580	15	0		611	3			533	9		
400		1161	3			1222	6			1066	18		
800		2322	6			2444	12			2133	9		
1000		2902	21			3055	15			2666	18		

Length.		Depth 6 feet, mean width 4 ft. 3 in.				Depth 6 feet, mean width 4 ft. 6 in.				Depth 6 feet, mean width 4 ft. 9 in.			
Yds.	Ft.	Yds.	Ft.	In.	12th	Yds.	Ft.	In.	12th	Yds.	Ft.	In.	12th
	1	0	25	6		1				1	1	6	
	2	1	24	0		2				2	3	0	
1		2	22	6		3				3	4	6	
2		5	18	0		6				6	9	0	
3		8	13	6		9				9	13	6	
4		11	9	0		12				12	18	0	
5		14	4	6		15				15	22	6	
6		17	0	0		18				19	0	0	
7		19	22	6		21				22	4	6	
8		22	18	0		24				25	9	0	
9		25	13	6		27				28	13	6	
10		28	9	0		30				31	18	0	
20		56	18			60				63	9	0	
40		113	9			120				126	18	0	
60		170	0			180				190	0	0	
80		226	18			240				253	9	0	
100		283	9			300				316	18	0	
200		566	18			600				633	9	0	
400		1133	9			1200				1266	18	0	
800		2266	18			2400				2533	9	0	
1000		2833	9			3000				3166	18	0	

Length.		Depth 6 feet, mean width 5 ft.			Depth 6 feet, mean width 5 ft. 3 in.				Depth 6 feet, mean width 5 ft. 6 in.			
Yds.	Ft.	Yds.	Ft.	In. 12th	Yds.	Ft.	In. 12th		Yds.	Ft.	In. 12th	
	1	1	3		1	4	6		1	6		
	2	2	6		2	9	0		2	12		
1		3	9		3	13	6		3	18		
2		6	18	.	7	0	0		7	9		
3		10	0		10	13	6		11	0		
4		13	9		14	0	0		14	18		
5		16	18		17	13	6		18	9		
6		20	0		21	0	0		22	0		
7		23	9		24	13	6		25	18		
8		26	18		28	0	0		29	9		
9		30	0		31	13	6		33	0		
10		33	9		35	0	0		36	18		
20		66	18		70				73	9		
40		133	9		140				146	18		
60		200	0		210				220	0		
80		266	18		280				293	9		
100		333	9		350				366	18		
200		666	18		700				733	9		
400		1333	9		1400				1466	18		
800		2666	18		2800				2933	9		
1000		3333	9		3500				3666	18		

Length.		Depth 6 feet, mean width 5 ft. 9 in.				Depth 6 feet, mean width 6 ft.				
Yds.	Ft.	Yds.	Ft.	In.	12th	Yds.	Ft.	In.	12th	
	1	1	7	6		1	9			
	2	2	15	0		2	18			
1		3	22	6		4				
2		7	18	0		8				
3		11	13	6		12				
4		15	9	0		16				
5		19	4	6		20				
6		23	0	0		24				
7		26	22	6		28				
8		30	18	0		32				
9		34	13	6		36				
10		38	9	0		40				
20		76	18	0		80				
40		153	9			160				
60		230	0			240				
80		306	10			320				
100		383	9			400				
200		766	18			800				
400		1533	9			1600				
800		3066	18			3200				
1000		3833	9			4000				

SOLID MEASURE.

TO FIND THE NUMBER OF CUBIC YARDS, &c.
IN DUNGHILLS.

See Rule for the Measuring of Broken Metal, only, instead of dividing by 16, as stated in that Rule, for *tons*, divide by 27 for the *cubic yards*.

Ex.—Required the number of cubic yards in a dunghill 30 yards 2 feet long, 18 feet broad, and 2 feet 9 inches deep?

30 yards 2 feet equal to 92 feet.

FT.		or 92 ft. equal to 1104 inches.
92		18 ft. „ 216 inches.
18		
<hr/>		<hr/>
736		6624
92		1104
<hr/>		<hr/>
		2208
	IN.	
1656	0	<hr/>
2	9	238464
<hr/>		<hr/>
3312	0	715392
1242	0	715392
<hr/>		<hr/>
27)4554	0	1728)7869312
<hr/>		<hr/>
Answer, 168 yds. 18 ft.		27)4554
		<hr/>

Answer, 168 yds. 18 ft.

*To find the Contents of the above Example, or that of any other from the Table:—*Look for the length in the left hand column, the breadth and depth in one of the columns right of it; then under this, and in the same line with the length, are the contents in cubic yards, &c.

Thus, under 18 feet broad, and two feet 9 inches deep, and in the same line with 20 yards, are . 110 0 0
And under 18 feet broad, and 2 feet 9 inches, and in the same line with 10 yards, are . . . 55 0 0
Again, under 18 feet, and 2 feet 9 inches, and in the same line with 2 feet, are 3 18 0

Answer, as before, 168 18 0

TABLE XII.

DUNGHILLS.

Length.		Breadth 1 foot, depth 2 feet.			Breadth 1 foot, depth 2 ft. 3 in.			Breadth 1 foot, depth 2 ft. 6 in.		
Yds.	Ft.	Yds.	Feet.	In.	Yds.	Feet.	In.	Yds.	Feet.	In.
	1		2			2	3		2	6
	2		4			4	6		5	0
1			6			6	9		7	6
2			12			13	6		15	0
3			18			20	3		22	6
4			24		1	0	0	1	1	0
5		1	3		1	6	9	1	8	6
6		1	9		1	13	6	1	16	0
7		1	15		1	20	3	1	23	6
8		1	21		2	0	0	2	4	0
9		2	0		2	6	9	2	11	6
10		2	6		2	13	6	2	19	
20		4	12		5	0	0	5	11	
40		8	24		10			10	22	
60		13	9		15			16	6	

Length.		Breadth 1 foot, depth 2 ft. 9 in.			Breadth 1 foot, depth 3 feet.			Breadth 1 foot, depth 3 ft. 3 in.		
Yds.	Ft.	Yds.	Feet.	In.	Yds.	Feet.	In.	Yds.	Feet.	In.
	1		2	9		3			3	3
	2		5	6		6			6	6
1			8	3		9			9	9
2			16	6		18			19	6
3			24	9	1	0		1	2	3
4		1	6	0	1	9		1	12	0
5		1	14	3	1	18		1	21	9
6		1	22	6	2	0		2	4	6
7		2	3	9	2	9		2	14	3
8		2	12	0	2	18		2	24	0
9		2	20	3	3	0		3	6	9
10		3	1	6	3	9		3	16	6
20		6	3	0	6	18		7	6	0
40		12	6	0	13	9		14	12	0
60		18	9	0	20	0		21	18	0

Length.		Breadth 2 feet, depth 2 feet.			Breadth 2 feet, depth 2 ft. 3 in.			Breadth 2 feet, depth 2 ft. 6 in.		
Yds.	Ft.	Yds.	Feet.	In.	Yds.	Feet.	In.	Yds.	Feet.	In.
	1		4			4	6		5	
	2		8			9	0		10	
1			12			13	6		15	
2			24		1	0	0	1	3	
3		1	9		1	13	6	1	18	
4		1	21		2	0	0	2	6	
5		2	6		2	13	6	2	21	
6		2	18		3	0	0	3	9	
7		3	3		3	13	6	3	24	
8		3	15		4	0	0	4	12	
9		4	0		4	13	6	5	0	
10		4	12		5	0	0	5	15	
20		8	24		10			11	3	
40		17	21		20			22	6	
60		26	18		30			33	9	

Length.		Breadth 2 feet, depth 2 ft. 9 in.			Breadth 2 feet, depth 3 feet.			Breadth 2 feet, depth 3 ft. 3 in.		
Yds.	Ft.	Yds.	Feet.	In.	Yds.	Feet.	In.	Yds.	Feet.	In.
	1		5	6		6			6	6
	2		11	0		12			13	0
1			16	6		18			19	6
2		1	6	0	1	9		1	12	0
3		1	22	6	2	0		2	4	6
4		2	12	0	2	18		2	24	0
5		3	1	6	3	9		3	16	6
6		3	18	0	4	0		4	9	0
7		4	7	6	4	18		5	1	6
8		4	24	0	5	9		5	21	0
9		5	13	6	6	0		6	13	6
10		6	3	0	6	18		7	6	0
20		12	6	0	13	9		14	12	
40		24	12	0	26	18		28	24	
60		36	18	0	40			43	9	

Length.		Breadth 3 feet, depth 2 feet.			Breadth 3 feet, depth 2 ft. 3 in.			Breadth 3 feet, depth 2 ft. 6 in.		
Yds.	Ft.	Yds.	Feet.	In.	Yds.	Feet.	In.	Yds.	Feet.	In.
	1		6			6	9		7	6
	2		12			13	6		15	0
1			18			20	3		22	6
2		1	9		1	13	6	1	18	0
3		2	0		2	6	9	2	13	6
4		2	18		3	0	0	3	9	0
5		3	9		3	20	3	4	4	6
6		4	0		4	13	6	5	0	0
7		4	18		5	6	9	5	22	6
8		5	9		6	0	0	6	18	0
9		6	0		6	20	3	7	13	6
10		6	18		7	13	6	8	9	0
20		13	9		15			16	18	0
40		26	18		30			33	9	0
60		40	0		45			50	0	0

Length.		Breadth 3 feet, depth 2 ft. 9 in.			Breadth 3 feet, depth 3 feet.			Breadth 3 feet, depth 3 ft. 3 in.		
	1		8	3		9			9	9
	2		16	6		18			19	6
1			24	9	1			1	2	3
2		1	22	6	2			2	4	6
3		2	20	3	3			3	6	9
4		3	18	0	4			4	9	0
5		4	15	9	5			5	11	3
6		5	13	6	6			6	13	6
7		6	11	3	7			7	15	9
8		7	9	0	8			8	18	0
9		8	6	9	9			9	20	3
10		9	4	6	10			10	22	6
20		18	9		20			21	18	0
40		36	18		40			43	9	
60		55			60			65		

Length.		Breadth 6 feet, depth 2 feet.			Breadth 6 feet, depth 2 ft. 3 in.			Breadth 6 feet, depth 2 ft. 6 in.		
Yds.	Ft.	Yds.	Feet.	In.	Yds.	Feet.	In.	Yds.	Feet.	In.
	1		12			13	6		15	
	2		24		1	0	0	1	3	
1		1	9		1	13	6	1	18	
2		2	18		3	0	0	3	9	
3		4	0		4	13	6	5	0	
4		5	9		6	0	0	6	18	
5		6	18		7	13	6	8	9	
6		8	0		9	0	0	10	0	
7		9	9		10	13	6	11	18	
8		10	18		12	0	0	13	9	
9		12	0		13	13	6	15	0	
10		13	9		15	0	0	16	18	
20		26	18		30			33	9	
40		53	9		60			66	18	
60		80	0		90			100	0	

Length.		Breadth 6 feet, depth 2 ft. 9 in.			Breadth 6 feet, depth 3 feet.			Breadth 6 feet, depth 3 ft. 3 in.		
	1		16	6		18			19	6
	2	1	6	0	1	9		1	12	0
1		1	22	6	2			2	4	6
2		3	18	0	4			4	9	0
3		5	13	6	6			6	13	6
4		7	9	0	8			8	18	0
5		9	4	6	10			10	22	6
6		11	0	0	12			13	0	0
7		12	22	6	14			15	4	6
8		14	18	0	16			17	9	0
9		16	13	6	18			19	13	6
10		18	9	0	20			21	18	0
20		36	18	0	40			43	9	0
40		73	9	0	80			86	18	0
60		110	0	0	120			130	0	0

Length.		Breadth 9 feet, depth 2 feet.			Breadth 9 feet, depth 2 ft. 3 in.			Breadth 9 feet, depth 2 ft. 6 in.		
Yds.	Ft.	Yds.	Feet.	In.	Yds.	Feet.	In.	Yds.	Feet.	In.
	1		18			20	3		22	6
	2	1	9		1	13	6	1	18	0
1		2	0		2	6	9	2	13	6
2		4			4	13	6	5	0	0
3		6			6	20	3	7	13	6
4		8			9	0	0	10	0	0
5		10			11	6	9	12	13	6
6		12			13	13	6	15	0	0
7		14			15	20	3	17	13	6
8		16			18	0	0	20	0	0
9		18			20	6	9	22	13	6
10		20			22	13	6	25	0	0
20		40			45			50		
40		80			90			100		
60		120			135			150		

Length.		Breadth 9 feet, depth 2 ft. 9 in.			Breadth 9 feet, depth 3 feet.			Breadth 9 feet, depth 3 ft. 3 in.		
	1		24	9	1			1	2	3
	2	1	22	6	2			2	4	6
1		2	20	3	3			3	6	9
2		5	13	6	6			6	13	6
3		8	6	9	9			9	20	3
4		11	0	0	12			13	0	0
5		13	20	3	15			16	6	9
6		16	13	6	18			19	13	6
7		19	6	9	21			22	20	3
8		22	0	0	24			26	0	0
9		24	20	3	27			29	6	9
10		27	13	6	30			32	13	6
20		55	0	0	60			65		
40		110			120			130		
60		165			180			195		

Length.		Breadth 12 feet, depth 2 feet.			Breadth 12 feet, depth 2 ft. 3 in.			Breadth 12 feet, depth 2 ft. 6 in.		
Yds.	Ft.	Yds.	Feet.	In.	Yds.	Feet.	In.	Yds.	Feet.	In.
	1		24		1			1	3	
	2	1	21		2			2	6	
1		2	18		3			3	9	
2		5	9		6			6	18	
3		8	0		9			10	0	
4		10	18		12			13	9	
5		13	9		15			16	18	
6		16	0		18			20	0	
7		18	18		21			23	9	
8		21	9		24			26	18	
9		24	0		27			30	0	
10		26	18		30			33	9	
20		53	9		60			66	18	
40		106	18		120			133	9	
60		160	0		180			200		

Length.		Breadth 12 feet, depth 2 ft. 9 in.			Breadth 12 feet, depth 3 feet.			Breadth 12 feet, depth 3 ft. 3 in.		
	1	1	6		1	9		1	12	
	2	2	12		2	18		2	24	
1		3	18		4			4	9	
2		7	9		8			8	18	
3		11	0		12			13	0	
4		14	18		16			17	9	
5		18	9		20			21	18	
6		22	0		24			26	0	
7		25	18		28			30	9	
8		29	9		32			34	18	
9		33	0		36			39	0	
10		36	18		40			43	9	
20		73	9		80			86	18	
40		146	18		160			173	9	
60		220			240			260		

Length.		Breadth 15 feet, depth 2 feet.			Breadth 15 feet, depth 2 ft. 3 in.			Breadth 15 feet, depth 2 ft. 6 in.		
Yds.	Ft.	Yds.	Feet.	In.	Yds.	Feet.	In.	Yds.	Feet.	In.
	1	1	3		1	6	9	1	10	6
	2	2	6		2	13	6	2	21	0
1		3	9		3	20	3	4	4	6
2		6	18		7	13	6	8	9	0
3		10	0		11	6	9	12	13	6
4		13	9		15	0	0	16	18	0
5		16	18		18	20	3	20	22	6
6		20	0		22	13	6	25	0	0
7		23	9		26	6	9	29	4	6
8		26	18		30	0	0	33	9	0
9		30	0		33	20	3	37	13	6
10		33	9		37	13	6	41	18	0
20		66	18		75			83	9	
40		133	9		150			166	18	
60		200			225			250		

Length.		Breadth 15 feet, depth 2 ft. 9 in.			Breadth 15 feet, depth 3 feet.			Breadth 15 feet, depth 3 ft. 3 in.		
Yds.	Ft.	Yds.	Feet.	In.	Yds.	Feet.	In.	Yds.	Feet.	In.
	1	1	14	3	1	18		1	21	9
	2	3	1	6	3	9		3	16	6
1		4	15	9	5			5	11	3
2		9	4	6	10			10	22	6
3		13	20	3	15			16	6	9
4		18	9	0	20			21	18	0
5		22	24	9	25			27	2	3
6		27	13	6	30			32	13	6
7		32	2	3	35			37	24	9
8		36	18	0	40			43	9	0
9		41	6	9	45			48	20	3
10		45	22	6	50			54	4	6
20		91	18	0	100			108	9	
40		183	9		200			216	18	
60		275			300			325		

Length.		Breadth 18 feet, depth 2 feet.			Breadth 18 feet, depth 2 ft. 3 in.			Breadth 18 feet, depth 2 ft. 6 in.		
Yds.	Ft.	Yds.	Feet.	In.	Yds.	Feet.	In.	Yds.	Feet.	In.
	1	1	9		1	13	6	1	18	
	2	2	18		3	0	0	3	9	
1		4			4	13	6	5		
2		8			9	0	0	10		
3		12			13	13	6	15		
4		16			18	0	0	20		
5		20			22	13	6	25		
6		24			27	0	0	30		
7		28			31	13	6	35		
8		32			36	0	0	40		
9		36			40	13	6	45		
10		40			45	0	0	50		
20		80			90	0	0	100		
40		160			180			200		
60		240			270			300		

Length.		Breadth 18 feet, depth 2 ft. 9 in.			Breadth 18 feet, depth 3 feet.			Breadth 18 feet, depth 3 ft. 3 in.		
	1	1	22	6	2	0	0	2	4	6
	2	3	18	0	4			4	9	0
1		5	13	6	6			6	13	6
2		11	0	0	12			13	0	0
3		16	13	6	18			19	13	6
4		22	0	0	24			26	0	0
5		27	13	6	30			32	13	6
6		33	0	0	36			39	0	0
7		38	13	6	42			45	13	6
8		44	0	0	48			52	0	0
9		49	13	6	54			58	13	6
10		55			60			65	0	0
20		110			120			130		
40		220			240			260		
60		330			360			390		

Length.		Breadth 21 feet, depth 2 feet.			Breadth 21 feet, depth 2 ft. 3 in.			Breadth 21 feet, depth 2 ft. 6 in.		
Yds.	Ft.	Yds.	Feet.	In.	Yds.	Feet.	In.	Yds.	Feet.	In.
	1	1	15		1	20	3	1	25	6
	2	3	3		3	13	6	3	24	0
1		4	18		5	6	9	5	22	6
2		9	9		10	13	6	11	18	0
3		14	0		15	20	3	17	13	6
4		18	18		21	0	0	23	9	0
5		23	9		26	6	9	29	4	6
6		28	0		31	13	6	35	0	0
7		32	18		36	20	3	40	22	6
8		37	9		42	0	0	46	18	0
9		42	0		47	6	9	52	13	6
10		46	18		52	13	6	58	9	0
20		93	9		105	0	0	116	18	
40		186	18		210			233	9	
60		280	0		315			350		

Length.		Breadth 21 feet, depth 2 ft. 9 in.			Breadth 21 feet, depth 3 feet.			Breadth 21 feet, depth 3 ft. 3 in.		
	1	2	3	9	2	9		2	14	3
	2	4	7	6	4	18		5	1	6
1		6	11	3	7			7	15	9
2		12	22	6	14			15	4	6
3		19	6	9	21			22	20	3
4		25	18	0	28			30	9	0
5		32	2	3	35			37	24	9
6		33	13	6	42			45	13	6
7		44	24	9	49			53	2	3
8		51	9	0	56			60	18	0
9		57	20	3	63			68	6	9
10		64	4	6	70			75	22	6
20		128	9	0	140			151	18	0
40		256	18		280			303	0	
60		385			420			455		

Length.		Breadth 24 feet, depth 2 feet.			Breadth 24 feet, depth 2 ft. 3 in.			Breadth 24 feet, depth 2 ft. 6 in.		
Yds.	Ft.	Yds.	Feet.	In.	Yds.	Feet.	In.	Yds.	Feet.	In.
	1	1	21		2			2	6	
	2	3	15		4			4	12	
1		5	9		6			6	18	
2		10	18		12			13	9	
3		16	0		18			20	0	
4		21	9		24			26	18	
5		26	18		30			33	9	
6		32	0		36			40	0	
7		37	9		42			46	18	
8		42	18		48			53	9	
9		48	0		54			60	0	
10		53	9		60			66	18	
20		106	18		120			133	9	
40		213	9		240			266	18	
60		320			360			400		

Length.		Breadth 24 feet, depth 2 ft. 9 in.			Breadth 24 feet, depth 3 feet.			Breadth 24 feet, depth 3 ft. 3 in.		
	1	2	12		2	18		2	24	
	2	4	24		5	9		5	21	
1		7	9		8			8	18	
2		14	18		16			17	9	
3		22	0		24			26	0	
4		29	9		32			34	18	
5		36	18		40			43	9	
6		44	0		48			52	0	
7		51	9		56			60	18	
8		58	18		64			69	9	
9		66	0		72			78	0	
10		73	9		80			86	18	
20		146	18		160			173	9	
40		293	9		320			346	18	
60		440			480			520		

Length.		Breadth 12 feet, depth 3 ft. 6 in.			Breadth 12 feet, depth 3 ft. 9 in.			Breadth 12 feet, depth 4 feet.		
Yds.	Ft.	Yds.	Feet.	In.	Yds.	Feet.	In.	Yds.	Feet.	In.
	1	1	15		1	18		1	21	
	2	3	3		3	9		3	15	
1		4	18		5			5	9	
2		9	9		10			10	18	
3		14	0		15			16	0	
4		18	18		20			21	9	
5		23	9		25			26	18	
6		28	0		30			32	0	
7		32	18		35			37	9	
8		37	9		40			42	18	
9		42	0		45			48	0	
10		46	18		50			53	9	
20		93	9		100			106	18	
40		186	18		200			213	9	
60		280			300			320	0	

Length.		Breadth 15 feet, depth 3 ft. 6 in.			Breadth 15 feet, depth 3 ft. 9 in.			Breadth 15 feet, depth 4 feet.		
	1	1	25	6	2	2	3	2	6	
	2	3	24	0	4	4	6	4	12	
1		5	22	6	6	6	9	6	18	
2		11	18	0	12	13	6	13	9	
3		17	13	6	18	20	3	20	0	
4		23	9	0	25	0	0	26	18	
5		29	4	6	31	6	9	33	9	
6		35	0	0	37	13	6	40	0	
7		40	22	6	43	20	3	46	18	
8		46	18	0	50	0	0	53	9	
9		52	13	6	56	6	9	60	0	
10		53	9	0	62	13	6	66	18	
20		116	18	0	125			133	9	
40		233	9		250			266	18	
60		350			375			400		

Length.		Breadth 18 feet, depth 3 ft. 6 in.			Breadth 18 feet, depth 3 ft. 9 in.			Breadth 18 feet, depth 4 feet.		
Yds.	Ft.	Yds.	Feet.	In.	Yds.	Feet.	In.	Yds.	Feet.	In.
	1	2	9		2	13	6	2	18	
	2	4	18		5	0	0	5	9	
1		7			7	13	6	8		
2		14			15	0	0	16		
3		21			22	13	6	24		
4		28			30	0	0	32		
5		35			37	13	6	40		
6		42			45	0	0	48		
7		49			52	13	6	56		
8		56			60	0	0	64		
9		63			67	13	6	72		
10		70			75	0	0	80		
20		140			150			160		
40		280			300			320		
60		420			450			480		

Length.		Breadth 21 feet, depth 3 ft. 6 in.			Breadth 21 feet, depth 3 ft. 9 in.			Breadth 21 feet, depth 4 feet.		
Yds.	Ft.	Yds.	Feet.	In.	Yds.	Feet.	In.	Yds.	Feet.	In.
	1	2	19	6	2	24	9	3	3	
	2	5	12	0	5	22	6	6	6	
1		8	4	6	8	20	3	9	9	
2		16	9	0	17	13	6	18	18	
3		24	13	6	26	6	9	28	0	
4		32	18	0	35	0	0	37	9	
5		40	22	6	43	20	3	46	18	
6		49	0	0	52	13	6	56	0	
7		57	4	6	61	6	9	65	9	
8		65	9	0	70	0	0	74	18	
9		73	13	6	78	20	3	84	0	
10		81	18	0	87	13	6	93	9	
20		163	9	0	175	0	0	186	18	
40		326	18	0	350			373	9	
60		490			525			560		

Length.		Breadth 24 feet, depth 3 ft. 6 in.			Breadth 24 feet, depth 3 ft. 9 in.			Breadth 24 feet, depth 4 feet.		
Yds.	Ft.	Yds.	Feet.	In.	Yds.	Feet.	In.	Yds.	Feet.	In.
	1	3	3		3	9		3	15	
	2	6	6		6	18		7	3	
1		9	9		10			10	18	
2		18	18		20			21	9	
3		28	0		30			32	0	
4		37	9		40			42	18	
5		46	18		50			53	9	
6		56	0		60			64	0	
7		65	9		70			74	18	
8		74	18		80			85	9	
9		84	0		90			96	0	
10		93	9		100			106	18	
20		186	18		200			213	9	
40		373	9		400			426	18	
60		560			600			640	0	

N.B.—The depths in the preceding Table are only stated at every three inches; and in order to find the measurement of a dunghill at any intermediate depth, take the contents of the next less, and that of the next greater in depth from the Table; find their difference; then, according as the given depth is one or two inches greater than the next lower in the Table, add one-third or two-thirds of the difference found, as above, to the contents of the lower, which will give the proper contents. When the given breadth exceeds the greatest breadth noted in the Table, the contents may be ascertained by means of two or more breadths, such as can be found in the Table, equal to the given breadth. Thus, to find the contents of a dunghill 35 feet broad, 3 feet deep, and 20 yards long—

First take from the Table the contents of one 20 yards long, 3 feet deep, and 21 feet broad, next that of one 20 yards long, 3 feet deep, and 12 feet broad, then of one 20 yards long, 3 feet deep, and 2 feet broad; the contents of these added together will be the answer required.

MANURING.

TO FIND THE NUMBER OF CART LOADS, THE NUMBER OF HEAPS IN EACH LOAD BEING KNOWN, WHICH WILL BE REQUIRED FOR MANURING ANY QUANTITY OF LAND, THE ROWS AND HEAPS BEING EQUALLY DISTANT.

RULE.—Reduce the quantity of land to be manured and the distance of the heaps or rows to the same denomination ; the quantity of land, divided by the product of the square of the distance of the heaps or rows, multiplied by the number of heaps in the load, will give the number of loads required.

Ex.—Required how many cart loads, of 6 heaps each, will be required for $12\frac{1}{2}$ Imperial acres, the distance between the rows and heaps being $6\frac{1}{2}$ yards?

$12\frac{1}{2}$ acres = 60500 yards, or $12\frac{1}{2}$ acres = 78408000 inches.	
Dist. of heaps $6\frac{1}{2}$ yards.	$6\frac{1}{2}$ yards = 234 inches.
$6\frac{1}{2}$	234
<hr/>	<hr/>
Sq. of dist. $42\frac{1}{4}$	234
Heaps in load 6	<hr/>
<hr/>	54756
<hr/>	6
<hr/>	<hr/>
$253\frac{1}{2}$	60500
2	2
<hr/>	<hr/>
507	$121000(238\frac{3}{5}\frac{3}{7}$ loads.

To find the number of Cart Loads from the Table:—Look for the distance of the heaps, left hand column, and for the number of heaps in the load, upper line (large figures), then directly under that number, and opposite to the distance of the heaps, is the number of loads which would be required for one acre ; then to find the number of loads for any number of acres, &c. multiply the number found in the Table by the number of acres, &c. ; and when the quantity is less than one acre, divide the number found in the Table by whatever part the quantity is of one acre. Thus, to find from the Table the number of loads for one acre, corresponding to the distance, &c. of the above example, look opposite $6\frac{1}{2}$ and under 6, and there are found 19.09 loads, which, multiplied by $12\frac{1}{2}$, gives 238.62 loads ; nearly the same as before.

TABLE XIII.

MANURING.

Dist. of the Heaps in Yards.	NUMBER OF HEAPS IN A CART LOAD.					
	1	2	3	4	5	6
1	4840	2420	1613.33	1210	968	806.66
1½	2151.11*	1075.55	717.03	537.77	430.22	358.51
2	1210	605	403.33	302.5	242	201.66
2½	774.4†	387.2	258.13	193.6	154.88	120.06
3	537.77	268.88	179.25	134.44	107.55	89.62
3½	395.1	197.55	131.7	98.77	79.02	65.85
4	302.5	151.25	100.83	75.62	60.5	50.41
4½	239.01	119.5	79.67	59.75	47.8	39.83
5	193.6	96.8	64.53	48.4	38.72	35.6
5½	160	80	53.33	40	32	26.66
6	134.44	67.22	44.81	33.61	26.77	22.74
6½	114.55	57.27	38.18	28.63	22.9	19.09
7	98.77	49.38	32.92	24.69	19.75	16.46
7½	86.13	43.2	28.71	21.53	17.22	14.35
8	75.62	37.81	25.2	18.9	15.12	12.6
8½	66.98	33.49	22.32	16.74	13.53	11.16
9	59.76	29.87	19.91	14.93	11.95	9.95
9½	53.62	26.81	17.86	13.4	10.71	8.93
10	48.4	24.2	16.13	12.1	9.68	8.05
10½	43.89	21.94	14.63	10.97	8.07	7.31
11	40	20	13.33	10	8	6.66
11½	36.59	18.29	12.19	9.14	7.31	6.09
12	33.61	16.8	11.2	8.53	6.72	5.6

* 100 parts of a load.

† 10 parts of a load.

Distance of the Heaps in Yards.	NUMBER OF HEAPS IN A CART LOAD.					
	7	8	9	10	11	12
1	691.42	605	537.77	484	440	403.33
1½	307.3	268.88	239.01	215.11	195.64	179.25
2	172.85	151.25	134.44	121	110	100.83
2½	110.62	96.8	86.04	77.44	70.4	64.53
3	76.82	67.22	59.86	53.77	48.87	44.81
3½	56.44	49.38	43.9	39.51	35.91	32.92
4	43.21	37.81	33.61	30.25	27.5	25.2
4½	34.14	29.87	26.55	23.9	21.72	19.91
5	27.65	24.2	21.51	19.36	17.6	16.13
5½	22.85	20	17.77	16	14.54	13.33
6	19.2	16.8	14.93	13.44	12.22	11.2
6½	16.35	14.31	12.68	11.47	10.41	9.54
7	14.11	12.34	10.97	9.87	8.97	8.23
7½	12.3	10.76	9.57	8.61	7.82	7.17
8	10.8	9.45	8.4	7.56	6.87	6.3
8½	9.57	8.34	7.48	6.69	6.08	5.58
9	8.53	7.46	6.63	5.97	5.43	4.97
9½	7.66	6.99	5.97	5.36	4.87	4.46
10	6.91	6.05	5.37	4.84	4.4	4.03
10½	6.27	5.48	4.77	4.38	3.99	3.58
11	5.71	5	4.44	4	3.63	3.33
11½	5.22	4.57	4.06	3.65	3.32	3.04
12	4.8	4.2	3.73	3.36	3.05	2.8

TO FIND THE NUMBER OF HEAPS WHICH WILL BE REQUIRED FOR MANURING ANY QUANTITY OF LAND, THE HEAPS AND ROWS BEING OF AN UNEQUAL DISTANCE.

RULE.—Reduce the distance of the heaps, the distance of the rows, and the quantity of land, all to the same denomination; then multiply the distance of the heaps by the distance of the rows, and divide the quantity of land by their product.

Ex.—How many heaps will be required for 8 acres, the heaps being $4\frac{1}{2}$ yards distant and the rows 7 yards?

8 acres equal to 38720 yards, or 8 acres = 50181120 inches.

Dist. of heaps	$4\frac{1}{2}$	$4\frac{1}{2}$ yds. = 162 inches.
Dist. of rows	7	7 yds. = 352 inches.
		352
Product,	$31\frac{1}{2}$ 38720	162
	2 2	——
	—— ———	40824)50181120(1229 $\frac{1}{3}$ heaps.
		63)77440(1229 $\frac{1}{3}$ heaps.

To find the number of Heaps, as above required, from the Table:—Look in the left hand column for the distance of heaps, and in the upper line (large figures), for the distance of the rows; directly under the latter, and opposite to the former, is found the number of heaps which will be required for one acre at the above-mentioned distances, which number (153.65), multiplied by the number of acres (8), gives 1229.2 heaps; nearly the same as above.

TABLE XIV.

MANURING.

Distance of the Heaps in Yards.	DISTANCE OF THE ROWS.				
	2	3	4	5	6
1	2420	1613.33	1210	968	806.66
1½	1613.33*	1075.44	806.44	645.33	537.77
2	1210	806.66	605	484	403.33
2½	968	645.33	484	387.2	322.66
3	806.66	537.77	403.33	322.66	268.88
3½	691.42	460.95	345.71	276.57	230.47
4	605	403.33	302.5	242	201.66
4½	537.77	358.51	268.88	215.11	179.25
5	484	322.66	242	193.6	161.33
5½	440	293.33	220	176	146.66
6	403.33	268.88	201.66	161.33	134.44
6½	372.3†	248.2	186.15	148.92	124.1
7	345.71	230.47	172.85	138.28	115.23
7½	322.66	215.11	161.33	129.06	107.55
8	302.5	201.66	151.25	121	100.83
8½	284.7	189.74	142.35	113.88	94.89
9	268.88	179.25	134.44	107.55	89.62
9½	254.73	169.82	127.36	101.89	84.91
10	242	161.33	121	96.8	80.66
10½	230.66	153.65	115.23	92.36	76.82
11	220	146.66	110	88	73.33
11½	210.43	140.28	105.21	84.17	70.14
12	201.66	134.44	100.83	80.66	67.22

* 100 parts of a heap.

† 10 parts of a heap.

Distance of the Heaps in Yards.	DISTANCE OF THE ROWS.					
	7	8	9	10	11	12
1	691.42	605	537.77	484	440	403.33
1½	460.95	403.33	358.51	322.66	293.33	268.88
2	345.71	302.5	268.88	242	220	201.66
2½	276.57	242	215.11	193.6	176	161.33
3	230.47	201.66	179.25	161.33	146.66	134.44
3½	197.55	172.85	153.65	138.28	125.71	115.23
4	172.85	151.25	134.44	121	110	100.83
4½	153.65	134.44	119.5	107.55	97.77	89.62
5	138.28	121	107.55	96.8	88	80.66
5½	128.88	110	97.77	88	80	73.33
6	115.23	100.83	89.62	80.66	73.33	67.22
6½	106.37	93.07	82.73	74.46	67.69	62.05
7	98.77	86.42	76.82	69.14	62.85	57.61
7½	92.19	80.66	71.7	64.53	58.66	53.77
8	86.42	75.62	67.22	60.5	55	50.41
8½	81.34	71.17	63.27	56.94	51.76	47.45
9	76.82	67.22	59.75	53.77	48.78	44.81
9½	72.78	63.68	56.6	50.94	46.31	42.45
10	69.14	60.5	53.77	48.4	44	40.25
10½	65.85	57.61	51.21	46.04	41.9	38.41
11	62.85	55	48.78	44	40	36.66
11½	60.12	52.6	46.74	42.08	38.3	35.07
12	57.61	50.41	44.81	40.25	36.66	33.61

THE END.

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