

Math Mammoth British Version Grade 3

End-of-Year Test Answer Key

1.

×	0	1	2	3	4	5	6	7	8	9	10	11	12
0	0	0	0	0	0	0	0	0	0	0	0	0	0
1	0	1	2	3	4	5	6	7	8	9	10	11	12
2	0	2	4	6	8	10	12	14	16	18	20	22	24
3	0	3	6	9	12	15	18	21	24	27	30	33	36
4	0	4	8	12	16	20	24	28	32	36	40	44	48
5	0	5	10	15	20	25	30	35	40	45	50	55	60
6	0	6	12	18	24	30	36	42	48	54	60	66	72
7	0	7	14	21	28	35	42	49	56	63	70	77	84
8	0	8	16	24	32	40	48	56	64	72	80	88	96
9	0	9	18	27	36	45	54	63	72	81	90	99	108
10	0	10	20	30	40	50	60	70	80	90	100	110	120
11	0	11	22	33	44	55	66	77	88	99	110	121	132
12	0	12	24	36	48	60	72	84	96	108	120	132	144

2. a. 14, 24, 25, 36 b. 28, 40, 27, 35 c. 9, 16, 49, 32 d. 56, 30, 48, 54


3. a. 7, 5, 8, 7 b. 8, 5, 11, 7 c. 9, 7, 4, 9 d. 10, 8, 3, 3


4. a. 310, 149 b. 620, 344 c. 148, 80

5. a. 33, 5 b. 643, 45 c. 15, 378

6. a. 579. To check, add $579 + 383 = 962$ using the grid.
b. 2476. To check, add $2476 + 4526 = 7002$ using the grid.

7. a. 7153 b. 278. Note the order of operations; the latter subtraction is done first.

8. a.  is 294. Solve by subtracting $708 - 414$.

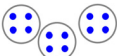
b.  is 824. Solve by adding $485 + 339$.

9. His total was $£185 + £32 = £217$. His change was $£300 - £217 = \underline{£83}$.

10. 160 kilometres. Note that the half-way point is at 150 kilometres.
They stopped at 140 kilometres (10 kilometres before 150 kilometres).

11. a. They received $8 \times 100 = \underline{800}$ light bulbs

b. There are $800 - 64 = \underline{736}$ left.

12. 

13. $5 \times 25 = 125$. You can solve it by adding repeatedly: $25 + 25 + 25 + 25 + 25 = 125$

14. a. 48 b. 20 c. 41

15. a. $7 \times 4 = 28$ legs

b. $5 \times 2 = 10$ legs

c. $8 \times 4 + 6 \times 2 = 44$ legs

16. 8 tables, because $8 \times 4 = 32$, which is more than 31. Seven tables is not enough.

17. It would cost a total of $3 \times £8 + 3 \times £6 = £24 + £18 = \underline{£42}$.

18. She needs 7 bags. (Because $7 \times 4 = 28$.)

19.	a. 10:51	b. 2:34	c. 3:57	d. 5:38
10 min. later	11:01	2:44	4:07	5:48

20. a. 35 minutes b. 5:30 AM c. 28 May

21. a. 28 hours b. 12 hours c. 9 hours more d. 48 hours

22. a. £25.54 b. £9.10 c. £12.70

23. a. £2.90 b. £0.55

24. £0.60. (You can add £2.35 + £2.35 + £2.35 + £2.35 = £9.40 to find the total cost.)

25. a. 700 b. 2000

26. a. > b. < c. < d. > e. >

27. a. 5700; 8600

b. 1200; 7800

28. a. 740 b. 990 c. 250 d. 670

29.

<p>a. Round the numbers, then add:</p> $\begin{array}{r} 3782 \\ \downarrow \\ 3800 \end{array} + \begin{array}{r} 2255 \\ \downarrow \\ 2300 \end{array} = 6100$	<p>Calculate exactly:</p> $\begin{array}{r} 11 \\ 3782 \\ + 2255 \\ \hline 6037 \end{array}$
<p>b. Round the numbers, then subtract:</p> $\begin{array}{r} 8149 \\ \downarrow \\ 8100 \end{array} - \begin{array}{r} 888 \\ \downarrow \\ 900 \end{array} = 7200$	<p>Calculate exactly:</p> $\begin{array}{r} 10 \\ 7014 \\ \del{8149} \\ - 888 \\ \hline 7261 \end{array}$

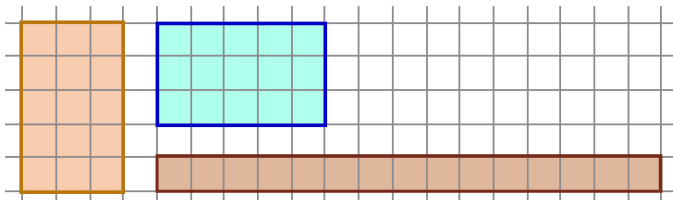
30. A - rectangle B - square C - rhombus D - rhombus G - rhombus
Also, F is a parallelogram; however that is not studied in third grade.

31. Perimeter 22 units Area 24 square units or squares
Note that the student should also give the “units” and “square units” or “squares”, not just a plain number.

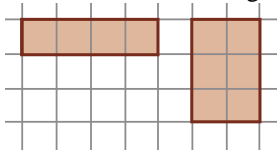
32. a. Part 1: 108 m² Part 2: 270 m² b. 96 m
Note that the student should also give the units “m²” and “m” in his/her answer, not just plain numbers.

33. It measures 23 cm.

34. a. The sides of the rectangle could be 5 and 3, or 15 and 1. Some examples below:



b. The sides of the rectangle could be 1 and 4, or 2 and 3.



35. $4 \times (2 + 5) = 4 \times 2 + 4 \times 5 = 28$ squares

36. Check the student's answers.

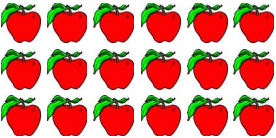
a. 

b. 

37. mm cm m km

38. millilitres (ml)

39. a. m b. cm c. kg d. ml e. kg f. m

40.  $3 \times 6 = 18$ $18 \div 3 = 6$
 $6 \times 3 = 18$ $18 \div 6 = 3$

41. a. 17, not possible b. 1, not possible c. 1, 0

42. a. 8 R1 b. 4 R4 c. 6 R5

43. Can he divide the children equally into teams of 5? **No.**

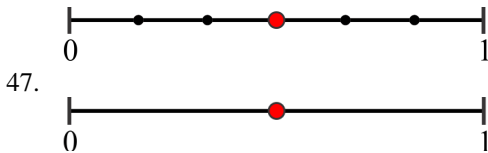
Teams of 6? **Yes.**

Teams of 7? **No.**

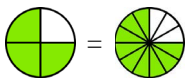


44. Each child paid £10.

45. a. $\frac{3}{8}$ b. $\frac{7}{9}$ c. $\frac{2}{4}$ d. $2\frac{2}{5}$ e. $\frac{2}{3}$ f. $\frac{9}{10}$

46. a. $1 = 10/10$ b. $2 = 10/5$ c. $4 = 24/6$



48.

		
a. $\frac{3}{4} = \frac{9}{12}$	b. $\frac{10}{12} = \frac{5}{6}$	c. $\frac{2}{3} = \frac{4}{6}$

49. a. < b. < c. < d. >

50. We cannot tell who ate more pie, because the two pies are of different sizes and it is not totally clear from the pictures which is more pie. And, even though the fraction $7/12$ is more than $1/2$, this thinking cannot be used here when each whole pie is a different size than the other one.