Math Mammoth International Version
Grade 3 Tests Answer Key

Chapter 1 Test

1. a. 270; 203 b. 93;129 c. 47; 871

2. a. 5 b. 287 c. 8

3. a. 4 b. 66 c. 78 d. 144 e. 29 f. 98

4. He has $105 left. His purchases were a total of $127 + $18 = $145, and $250 − $145 = $105.

5. a. 247. To check it, add 247 + 157 = 404.
   b. 326. To check it, add 326 + 397 = 723

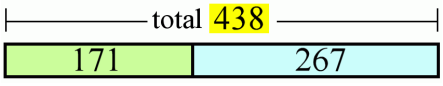
6. a. 710 b. 600 c. 820 d. 460

7. a. 27 b. 43 c. 310 d. 320

8. 159 days

9. Jay has 4 × 80 − 28 = 320 − 28 = 292 trading cards.

10.



171 + 267 = 438 (or 267 + 171 = 438)

438 – 171 = 267 (or 438 – 267 = 171)

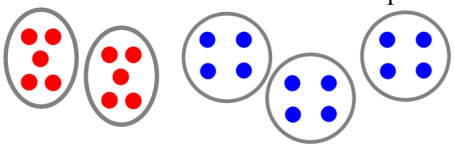
11. 609 – (169 + 145) = 609 – 314 = 295

Chapter 2 Test

1. a. 6, 5, 0 b. 10, 30, 12 c. 40, 120, 400 d. 9, 0, 11

2. Answers will vary. Check the student's answers. For example:

a. 

b. 

3. a. There are 3 × 12 = 36 apples in three baskets.
   b. 4 × 2 + 2 × 8 = 24. The cost is $24.
   c. You can make five groups. 5 × 4 = 20

4. a. 20 b. 22 c. 0 d. 11

Chapter 3 Test

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. $3 \times 8 = 24$ (or $8 \times 3 = 24$)
   b. $9 \times 7 = 63$ (or $7 \times 9 = 63$)

3. a. $5 \times 9 + 5 \times 5 = 45 + 25 = 70$. The kittens would cost $70.
   b. You need nine tables. $9 \times 6 = 54$.
   c. They have $7 \times 4 + 4 \times 4 + 12 \times 2 = 68$ feet in total
   d. You can buy 16 pencils. $16 \times 3 = 48$.

4. a. 4, 9, 6 b. 11, 6, 2 c. 7, 4, 11 d. 9, 4, 12 e. 6, 11, 2 f. 8, 2, 4 g. 6, 9, 4 h. 12, 4, 7

Chapter 4 Test

1. a. 1:47; 1:57 b. 10:09; 10:19 c. 5:34; 5:44 d. 9:49; 9:59

2. a. 22 minutes b. 39 minutes

3. a. 2 hours b. 20 minutes c. 43 minutes d. 34 minutes

4. He was gone for three hours.

5. They returned on 3 October.

6. It was 2:20.

Chapter 5 Test

1. a. $10.55 b. $1.60

2. a. $2.10 b. $1.10 c. $4.00

3. a. $4.25 + $2.75 + $0.80 = $7.80 b. $12.20

4. a. Nancy still needs to save $16.85.
   b. The total cost was $30.45.
   c. His change was $19.55.

Chapter 6 Test

1. a. 2 689 b. 4 070 c. 5 609 d. 3 902

2. a. > b. > c. < d. <

3. a. 700; 8 200 b. 8 100; 8 100

4. a. 500 b. 1 400 c. 2 900

5. a. Estimate: 2 900 + 4 500 = 7 400. Exact calculation: 7 396
   b. Estimate: 7 000 – 3 000 = 4 000; Exact calculation: 4 029

6. While rounding can be done in several manners, in these problems it makes most sense to round the numbers to the nearest hundred, because that allows you to calculate the answers using mental math while keeping the estimate fairly accurate. Rounding to the nearest ten would make the mental calculations possibly too difficult, and rounding to the nearest thousand would give a very inaccurate estimate.

   a. Estimation: \$2 000 – (\$1 600 + \$300) = \$100. The exact answer: \$86.

   b. Estimation: \$2 600 – \$700 = \$1 900. The exact answer: \$1 916.

Chapter 7 Test

1. A parallelogram
   B a square
   C a square
   D a rhombus
   E -
   F a rhombus
   G a rectangle

2. Area = 9 square units Perimeter = 14 units

3. 14 cm + ? = 21 cm or 14 cm + ? + 14 cm + ? = 42 cm
   Solution: ? = 7 cm

4. In this problem it is required that the student give the correct *unit*, not just the correct number.

   a. Perimeter = 12 m Area = $8m^2$
   b. Perimeter = 28 m
   c. Area = 49 m^2

5. $2 \times 3 + 6 \times 3 = 24$ square units OR $2 \times 3 + 3 \times 6 = 24$ square units
   OR $3 \times 2 + 6 \times 3 = 24$ square units OR $3 \times 2 + 3 \times 6 = 24$ square units

6. Divide the shape into two rectangles (which can be done in two different ways).
   Area = 4 m × 11 m + 4 m × 8 m = 76 m^2. OR 7 m × 4 m + 12 m × 4 m = 76 m^2.
   It is required that the student include square metres with his/her answer (m^2), not just the correct number.

7. The second pen has a larger perimeter. Its perimeter is 104 m, whereas the perimeter of the first pen is 92 m. The difference is 12 m. The student needs to include metres with his/her answer (m), not just the correct number.

8. $3 \times (4 + 2) = 3 \times 4 + 3 \times 2$

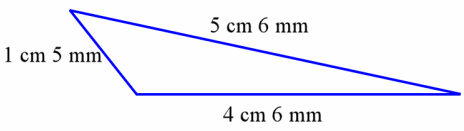
area of the whole rectangle	area of the first part	area of the second part

Chapter 8 Test

1. a. _____

   b. _____

2. If you printed the test at 100%, or if you have the printed book, the answer below should be correct. If you printed the test at "shrink to fit" or "print to fit", the answer below will not match and you should check the student's answers.



3.

a. Mary's book weighed 350 _g_. b. A carton of juice had 2 _L_ of juice. c. The aeroplane was flying 10 000 _m_ above the ground.	d. The recipe called for 200 _g_ of flour. e. Mum bought 3 _kg_ of bananas. f. Andrew and Ben rode their bicycles 10 _km_ to the beach.
g. Erika weighs 55 _kg_. h. The shampoo bottle can hold 450 _ml_ of shampoo. i. The large tank holds 200 _L_ of water.	j. From Jack's house to the neighbour's the distance is 50 _m_. k. A cell phone weighs 100 _g_. l. A housefly measured 17 _mm_ long.

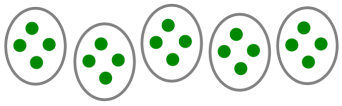
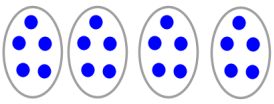
4. mm cm m km

5. a. 0 kg 200 g b. 3 kg 400 g

Chapter 9 Test

1.

a. $6 \times 7 = 42$ $42 \div 7 = 6$ $42 \div 6 = 7$	b. $5 \times 11 = 55$ $55 \div 11 = 5$ $55 \div 5 = 11$

2.  or 

3. a. 8, 4 b. 9, 10 c. 7, 6 d. 0, 1

4. a. 7 R4 b. 7 R3 c. 7 R1

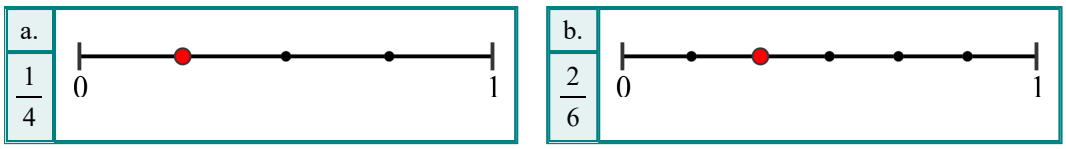
5. a. Nine groups. $9 \times 6 = 54$.
   b. $4 \times 6 + 4 \times 10 = 24 + 40 = 64$ markers.
   c. Nine pages. $9 \times 9 = 81$, and $10 \times 9 = 90$.
   d. 27 stickers. $3 \times 9 = 27$

Chapter 10 Test

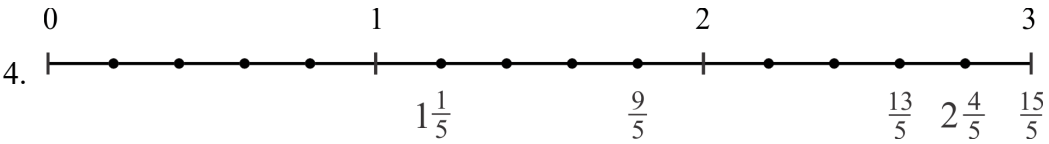
1. a. < b. > c. > d. <

2. $\frac{1}{8} < \frac{1}{5} < \frac{1}{4} < \frac{1}{2}$

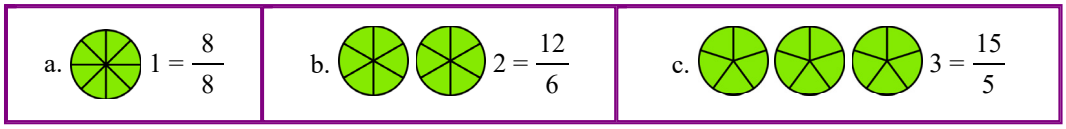
3.



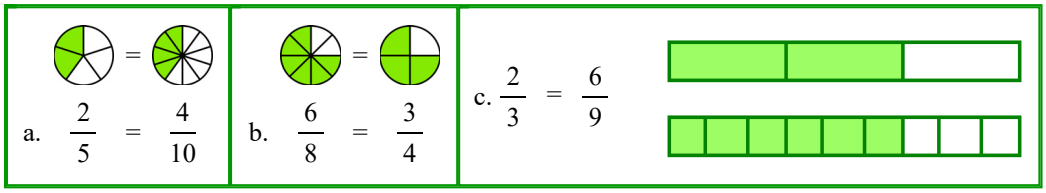
4.



5.

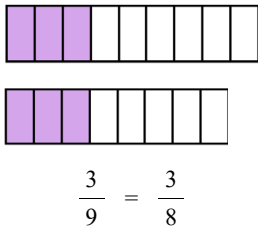


6.



7. They ate the same amount of bread, because eating 3 pieces out of 12, and 2 pieces out of 8 signify the fractions 3/12 and 2/8, and they are equivalent fractions (both are equal to 1/4).

8. It is wrong because the two wholes that we take the fractions from are not the same size. You cannot compare fractions unless the wholes they refer to are the same.



Grade 3, End-of-the-Year Test, International Version

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. 2 476. To check, add 2 476 + 4 526 = 7 002 using the grid.

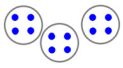
7. a. 7 153 b. 792. Note the order of operations; the subtraction is done first.

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 = \$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 × 100 = 800 light bulbs
b. There are 800 − 64 = 736 left.

12. 

13. 5 × 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 × 4 = 28 legs
b. 5 × 2 = 10 legs
c. 8 × 4 + 6 × 2 = 44 legs

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

17. It would cost a total of 3 × \$8 + 3 ×\$6 = \$24 + \$18 = \$42.

18. She needs 7 bags. (Because 7 × 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. 2 000

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

27. a. 5 700; 8 600
    b. 1 200; 7 800

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

29.

a. Round the numbers, then add: 3 7 8 2 + 2 2 5 5 ↓ ↓ 3 800 + 2 300 = 6 100	Calculate exactly: 1 1 3 7 8 2 + 2 2 5 5 6 0 3 7
b. Round the numbers, then subtract: 8 1 4 9 – 8 8 8 ↓ ↓ 8 100 – 900 = 7 200	Calculate exactly: 10 7 ~~0~~ 14 ~~8 1 4 9~~ – 8 8 8 7 2 6 1

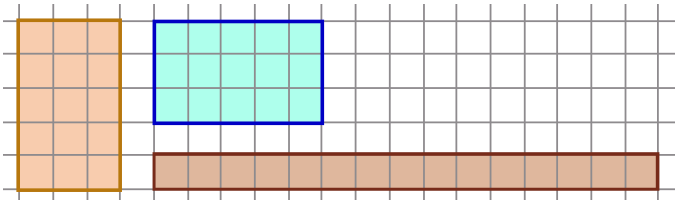
30. A - rectangle B - square C - rhombus D - rhombus G - rhombus
    Also, F is a parallelogram; however that is not studied in third grade.

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.

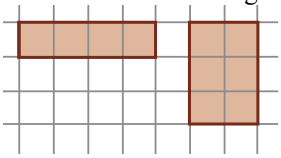
32. a. Part 1: 108 m^2 Part 2: 270 m^2 b. 96 m
    Note that the student should also give the units "m^2" and "m" in his/her answer, not just plain numbers.

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.

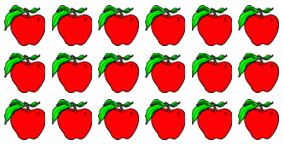
a.

b.

37. mm cm m km

38. millilitres (ml)

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

40. 

$3 \times 6 = 18 \quad 18 \div 3 = 6$

$6 \times 3 = 18 \quad 18 \div 6 = 3$

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

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

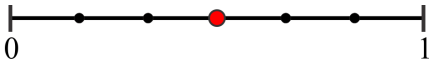
43. Can he divide the children equally into teams of 5? **No.**
Teams of 6? **Yes.**
Teams of 7? **No.**

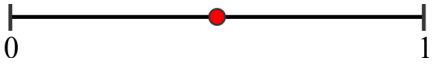
44. Each child paid $10.

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

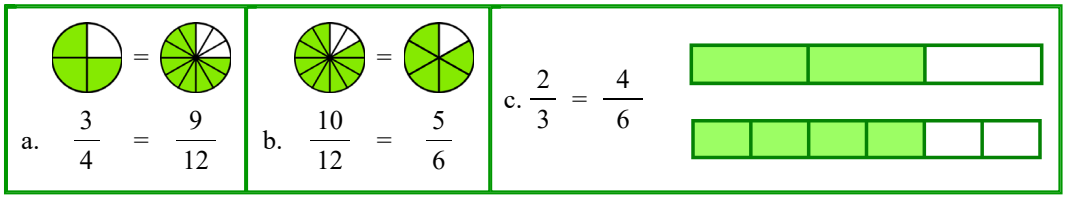
46. a. 1 = 10/10 b. 2 = 10/5 c. 4 = 24/6

47.





48.



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.