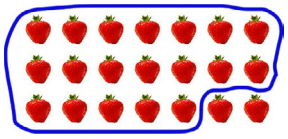
Answer Key to the
Math Mammoth Placement Test, Grades 1-3

1. a. 8, 7, 9 b. 10, 9, 8 c. 8, 10, 7 d. 10, 10, 8
   e. 13, 18, 11 f. 15, 11, 12 g. 12, 16, 12 h. 14, 14, 17

2. a. 5, 4, 1 b. 3, 3, 3 c. 4, 1, 3 d. 7, 1, 2
   e. 9, 8, 7 f. 8, 4, 8 g. 8, 8, 9 h. 9, 9, 6

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

4. Answers will vary; check the student's answer. For example:

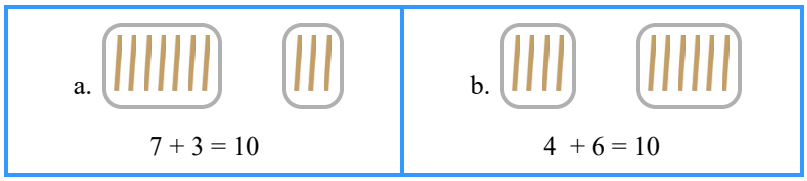


5. a. 8 b. 10 c. 17

6. 17 = 10 + 7

7. 7 − 4 = 3

8.



9. The additions and subtractions can be in different order. Check the student's work.

   2 + 7 = 9 7 + 2 = 9

   9 – 2 = 7 9 – 7 = 2

10. 19 + 34 = 53

11. 6 × 2 = 12. (It is also acceptable to write 2 × 6 = 12, but it is preferable to stick with the "number of groups times how many in each group" concept.)

12. 6 ÷ 2 = 3 or 6 ÷ 3 = 2 (both are correct)

13. 3 × 5 = 15 (It is also acceptable to write 5 × 3 = 15, but it is preferable to stick with the "number of groups times how many in each group" concept.)

14. 3 × 6 = 18 18 ÷ 3 = 6

    6 × 3 = 18 18 ÷ 6 = 3

15. a. 37 b. 267 c. 7,040

16. a. 85 b. 294
    c. 7,300 d. 8,042

17. a. 90 b. 20
c. 200 d. 2,000

18. a. < b. > c. > d. <

19. a. 417 < 447 < 714 b. 990 < 8,009 < 8,909 < 9,098

20. a. 78 b. 60 c. 120
d. 600 e. 320 f. 392
g. 5,700 h. 2,940

21. a. 5, 4 b. 5, 4 c. 1, 1

22. a. 5 b. 7 c. 9
d. 2 e. 7 f. 7

23. a. 88, 59 b. 52, 48 c. 96, 92

24. a. 67, 54 b. 31, 149 c. 15, 148

25. a. 33, 543 b. 620, 344 c. 310, 378

26. a. 83 b. 24 c. 722 d. 8,248

27. 748

28.

$$\begin{array}{r} {\scriptstyle 6\ \cancel{10}\ 13} \\ \cancel{7}\ 0\ \cancel{3} \\ -\ 5\ 4\ 6 \\ \hline 1\ 5\ 7 \end{array}$$

Check:

$$\begin{array}{r} {\scriptstyle 1\ \ 1} \\ 1\ 5\ 7 \\ +\ 5\ 4\ 6 \\ \hline 7\ 0\ 3 \end{array}$$

29. a. $\triangle = 34$ b. $x = 824$

30. a. They have 19 cars together.
b. Robert has 5 more cars than Luis.

31. Andy drew 16 stars. (8 + 3 + 5 = 16)

32. Each child got 7 apples. (5 + 9 = 14, and half of 14 is 7.)

33. He still needs $6 more. ($16 + $10 = $26; $26 + $6 = $32)

34. 324 chickens are young (450 − 126 = 324)

35. A round trip is 436 miles (218 + 218 = 436)

36. 160 miles. Note that the half-way point is at 150 miles. They stopped at 140 miles (10 miles before 150 miles).

37. a. $78 ≈ $80; $459 ≈ $460
b. He can buy the phone after 6 weeks. ($80 + $80 + $80 + $80 + $80 + $80 = $480 or 6 × $80 = $480)

38. $545 + $52 = $597; $597 − $310 = $287. He needs $287 more.

39. a. 7 × 4 = 28 legs
b. 8 × 4 + 6 × 2 = 44 legs

40. a. 10 b. 8 c. 8
d. 9 e. 5 f. 40

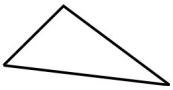
41. a. 75 b. 240 c. 300

42. a. 3 × 12 = 36. She needs 36 rolls.
b. 8 × 4 = 32. You need 8 tables.
c. 3 × $8 + 3 × $6 = $42. It would cost $42.

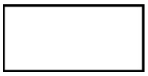
43. a. $7 \times 4 = 28$. She will need 7 bags.
b. ($16 + $14) ÷ 3 = $10. Each child paid $10.00.
c. $6 \times 10 + 9 = 69$ (or $7 \times 10 - 1 = 69$). There are 69 passengers.

44. a. square b. pentagon

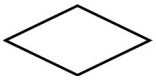
45. a. Drawings will vary. Check the student's drawing. For example:



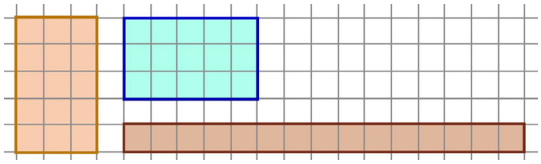
b. Drawings will vary. It should be a rectangle that is not a square. For example:



c. Drawings will vary. Check the student's drawing. For example:

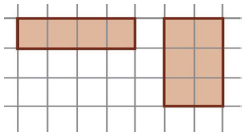


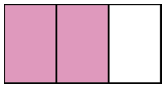
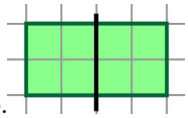
46. Perimeter 22 units; area 24 square units or squares.
Note that the student should also give the "units" and "square units" or "squares", not just a plain number.



47. a. The sides of the rectangle could be 5 and 3, or 15 and 1.
Some examples are shown on the right.

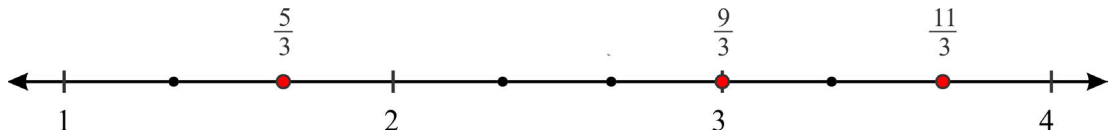
b. The sides of the rectangle could be 1 and 4, or 2 and 3.
See the image on the right.



48. a.  b. 

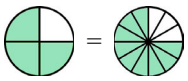
49. a. 3/8 b. 5/6 c. 8/3

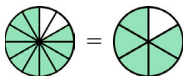
50.

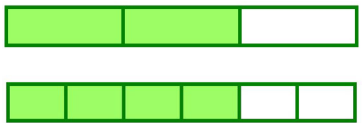


51. $\frac{6}{4}$ $\frac{8}{8}$ $\frac{2}{8}$ $\frac{13}{3}$ $\frac{24}{4}$ $\frac{20}{6}$

52.

a.  $\frac{3}{4} = \frac{9}{12}$

b.  $\frac{10}{12} = \frac{5}{6}$

c. $\frac{2}{3} = \frac{4}{6}$ 

53. a. < b. < c. = d. > e. =