

Math Mammoth Grade 4

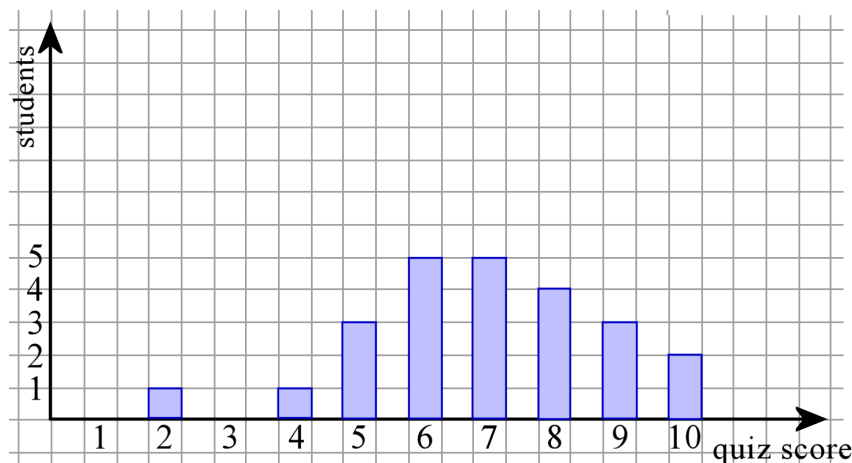
End-of-Year Test Answer Key

International Version

1. 1980. Add to check: $1\,980 + 543 + 2\,677$ equals $5\,200$.
2. a. $\approx \$2 + \$9 + \$5 + \$9 = \$25$
 b. The total cost is $\$2.25 + \$8.90 + \$4.75 + \$9.30 = \underline{\$25.20}$. Her change is $\$50 - \$25.20 = \underline{\$24.80}$.
3. Estimate: $5 \times \$3 + 2 \times \$3 = \$15 + \$6 = \$21$
4. a. 30; 84 b. 11; 14 c. 140; 19
5. a. $\$35 + x = \92 ; $x = \$57$ b. $x - 24 = 37$; $x = 61$
6. a. 2 000 1 750 1 500 1 250 1 000 750 500 250
 b. 200, 500, 800, 1 100, 1 400, 1 700

7. In the frequency table, we list how many students got that score.

| Quiz score | Frequency |
|------------|-----------|
| 1 | 0 |
| 2 | 1 |
| 3 | 0 |
| 4 | 1 |
| 5 | 3 |
| 6 | 5 |
| 7 | 5 |
| 8 | 4 |
| 9 | 3 |
| 10 | 2 |



8.

A doll used to cost \$27.95 but now the price is \$21.45. How much is the discount?

$\underline{\$21.45 + x = \$27.95}$ OR $\underline{x = \$27.95 - \$21.45}$

$\underline{x = \$6.50}$

← original price **\$27.95** →

| | |
|---------|---|
| \$21.45 | x |
|---------|---|

9. a. 1 999 b. 4 980 c. 5 700
10. a. 800 050 b. 25 407
11. a. 30 000 b. 9 000 c. 600
12. a. < b. > c. >
13. 27 200 217 200 227 200 227 712
14. a. 440 000 b. 90 000 c. 27 500
15. a. 430 000 b. 500 000 c. 10 000
16. a. 501 663 b. 323 688

17. a. 210 b. 4 800 c. 3 200 d. 120 e. 80 f. 70

18. a. \$160 b. \$800 c. Four days, since $4 \times \$160 = \640

19. a. Estimate $5 \times 200 = 1\,000$. Exact: 980
b. Estimate $40 \times 40 = 1\,600$ or $30 \times 40 = 1\,200$. Exact: 1 330
c. Estimate $7 \times 3\,000 = 21\,000$. Exact: 22 316
d. Estimate $90 \times 20 = 1\,800$. Exact: 1 958

20.

| | |
|---|--|
| $\begin{aligned} \text{Area} &= 8 \times 127 \\ &= \underline{8} \times \underline{100} + \underline{8} \times \underline{20} + \underline{8} \times \underline{7} \\ &= 800 + 160 + 56 = 1\,016 \end{aligned}$ | |
|---|--|

21. a. Her change is \$36. The number sentence could be $\$400 - 26 \times \$14 = \$36$.
Or the student could write two number sentences: $26 \times \$14 = \364 and $\$400 - \$364 = \$36$.

b. 24×60 minutes = 1 440 minutes

c. 1 500 cm. The number sentence could be $4 \times 375 \text{ cm} = 1\,500 \text{ cm}$ or
 $375 \text{ cm} + 375 \text{ cm} + 375 \text{ cm} + 375 \text{ cm} = 1\,500 \text{ cm}$

d. The number sentences will vary. For example: $(\$277 - \$58) \times 8 = \$1\,752$.
Or, $\$277 - \$58 = \$219$ and $8 \times \$219 = \$1\,752$.

22. Answers may vary if the test is printed with “shrink to fit” or “fit to printable area”, or because of slight variability in rulers, or because of measuring inaccurately. Please check the student's answers.

a. 13 cm 3 mm. 13 cm 4 mm is also acceptable. b. 9 cm 8 mm. 9 cm 9 mm is also acceptable.

23. 6 hours 12 minutes

24. $1 \text{ h } 45 \text{ min} + 50 \text{ min} + 1 \text{ h } 15 \text{ min} + 2 \text{ h } 15 \text{ min} + 55 \text{ min} = 4 \text{ h } 180 \text{ min}$, which is 7 hours.

25. She worked for 7 hours 30 minutes. From 7:00 am to 3:35 pm is 8 hours 35 minutes. Subtract from that 65 minutes, or 1 hour 5 minutes, to get 7 hours 30 minutes.

26.

| | | |
|---|---|---|
| a. $2 \text{ kg} = 2\,000 \text{ g}$ $11 \text{ kg } 600 \text{ g} = 11\,600 \text{ g}$ | b. $5 \text{ L } 200 \text{ ml} = 5\,200 \text{ ml}$ $3 \text{ m} = 300 \text{ cm}$ | c. $8 \text{ cm } 2 \text{ mm} = 82 \text{ mm}$ $10 \text{ km} = 10\,000 \text{ m}$ |
|---|---|---|

27. In four days, he jogs 15 km 200 m.

28. 1 L 650 ml

29. $2 \times 5 \text{ m } 20 \text{ cm} + 2 \times 3 \text{ m } 4 \text{ cm} = \underline{16 \text{ m } 48 \text{ cm}}$

30. a. 63. Check: $63 \times 9 = 567$

b. 2 141. Check: $2\,141 \times 4 = 8\,564$

31. a. 9 R2 b. 8 R1 c. 6 R3

32. a. $48 \div 9 = 5 \text{ R}3$. There were three photographs on the last page; five pages were full.

b. One metre of the fence costs $\$255 \div 15 = \17 . So, your neighbour should pay $3 \times \$17 = \underline{\$51}$.

33. a. It cost \$99. First find $1/8$ of \$264: $\$264 \div 8 = \33 . Then to find $3/8$ of it, multiply $3 \times \$33 = \99 .

b. She needs 20 bags. $117 \div 6 = 19 \text{ R}3$. Notice she needs a bag also for the three muffins that do not fill a bag.

34.

| number | divisible by 1 | divisible by 2 | divisible by 3 | divisible by 4 | divisible by 5 | divisible by 6 | divisible by 7 | divisible by 8 | divisible by 9 | divisible by 10 |
|--------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|-----------------|
| 80 | x | x | | x | x | | | x | | x |
| 75 | x | | x | | x | | | | | |
| 47 | x | | | | | | | | | |

35.

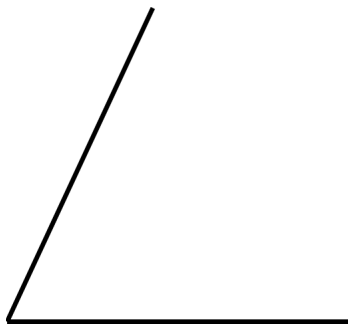
| | |
|--|---|
| a. Is 5 a factor of 60? <u>Yes</u> , because $5 \times 12 = 60$. | b. Is 7 a divisor of 43? <u>No</u> , because $43 \div 7 = 6 \text{ R}1$ (the division is not even). |
| c. Is 96 divisible by 4? <u>Yes</u> , because $96 \div 4 = 24$ (the division is even). | d. Is 34 a multiple of 7? <u>No</u> , because 34 is not in the multiplication table of 7. OR: No, because $34 \div 7 = 4 \text{ R}6$; the division is not even. OR: No, because there is no whole number you can multiply by 7 to get 34. |

36. Answers vary. For example: 2, 3 and 5. Here is a list of primes less than 100:

2, 3, 5, 7, 11, 13, 17, 19, 23, 29, 31, 37, 41, 43, 47, 53, 59, 61, 67, 71, 73, 79, 83, 89, 97

37. a. 1, 2, 4, 7, 8, 14, 28, 56 b. 1, 2, 3, 6, 13, 26, 39, 78

38. 155°

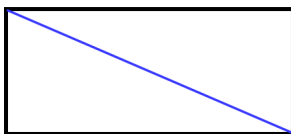


39. Check the student's answer.

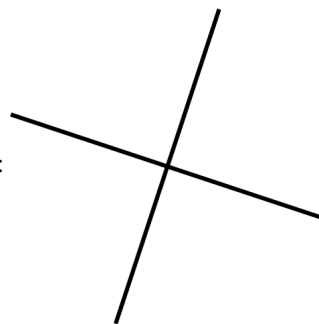
40. Answers vary. Check the student's answer. The sum of the angle measures should be 180° or very close.

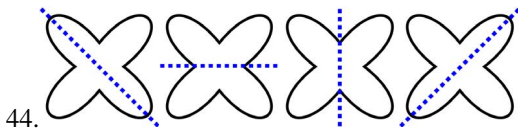
41. $29^\circ + x = 180^\circ$; $x = 151^\circ$.

42. Right triangles.



43. The answer varies. Check the student's answer. For example:







45. Use subtraction. $A = 9 \text{ m} \times 4 \text{ m} - 2 \text{ m} \times 3 \text{ m} = 36 \text{ m}^2 - 6 \text{ m}^2 = 30 \text{ m}^2$.

46. $\frac{5}{8} + \frac{5}{8} = 1 \frac{2}{8}$

47. There is still $\frac{2}{4}$ or $\frac{1}{2}$ of it left to put together.

48. a. $1 \frac{2}{5}$ b. $\frac{5}{6}$ c. 6

49.

| | |
|---|---|
|  <p>a. Each piece is split into 2 new ones.</p> $\frac{4}{5} = \frac{8}{10}$ |  <p>b. Each piece is split into <u>3</u> new ones.</p> $\frac{2}{3} = \frac{6}{9}$ |
|---|---|

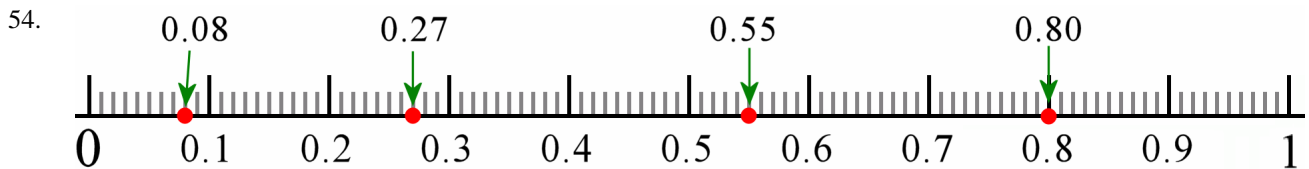
50.

| | | | |
|----------------------------------|---------------------------------|---------------------------------|--------------------------------|
| a. $\frac{2}{3} = \frac{10}{15}$ | b. $\frac{3}{5} = \frac{9}{15}$ | c. $\frac{1}{6} = \frac{2}{12}$ | d. $\frac{1}{3} = \frac{3}{9}$ |
|----------------------------------|---------------------------------|---------------------------------|--------------------------------|

51. a. > b. > c. < d. <

52. $\frac{65}{100} < \frac{7}{10} < \frac{5}{4}$

53. a. $\frac{1}{8}$ b. $1 \frac{3}{5}$ c. $1 \frac{2}{12}$



55. a. 0.3 b. 3.9 c. 0.09 d. 7.45

56. a. $\frac{6}{10}$ b. $\frac{67}{10}$ c. $\frac{21}{100}$ d. $\frac{55}{100}$

57. a. < b. > c. < d. =

58. a. 13.01 b. 3.74