

Math Mammoth End-of-the-Year Test, Grade 5 Answer Key, International Version

My suggestion for points per item is as follows. The total is 171 points. A score of 137 points is 80%.

Question #	Max. points	Student score
The Four Operations		
1	2 points	
2	6 points	
3	2 points	
4	2 points	
5	2 points	
6	2 points	
7	3 points	
<i>subtotal</i>		/ 19
Large Numbers		
8	2 points	
9	1 point	
10	1 point	
11	4 points	
<i>subtotal</i>		/ 8
Problem Solving		
12	3 points	
13	3 points	
14	3 points	
15	3 points	
16	3 points	
17	3 points	
<i>subtotal</i>		/ 18
Decimals		
18	4 points	
19	6 points	
20	3 points	
21	3 points	
22	3 points	
23	3 points	
24	9 points	
25	6 points	
26	9 points	

Question #	Max. points	Student score
27	3 points	
28	3 points	
<i>subtotal</i>		/52
Graphs		
29	3 points	
30	2 points	
31	4 points	
<i>subtotal</i>		/9
Fractions		
32	3 points	
33	4 points	
34	4 points	
35	2 points	
36	4 points	
37	2 points	
38	5 points	
39	3 points	
40	2 points	
41	4 points	
42	2 points	
43	2 points	
44	4 points	
<i>subtotal</i>		/41
Geometry		
45	4 points	
46	4 points	
47	2 points	
48	3 points	
49	3 points	
50	3 points	
51	1 point	
52	4 points	
<i>subtotal</i>		/24
TOTAL		/171

The Four Operations

- a. 45 b. 409 344
- a. $x = 296\,430$ b. $Y = 80$ c. $N = 3\,304$
- All of these are correct:
 $4Y = 600$ or $4 \times Y = 600$ or $Y + Y + Y + Y = 600$ or $600 \div 4 = Y$ or $600 \div Y = 4$ or $600 - Y - Y - Y - Y = 0$.
 Solution: $Y = 150$.
- a. $42 \times 10 = (10 - 4) \times 70$
 b. $143 = 13 \times (5 + 6)$
- $(\$19.95 - \$5) \times 5$ or $5 \times (\$19.95 - \$5)$. The total cost was \$74.75.
- No, it is not. Explanations vary. For example: It is an odd number, and therefore cannot be divisible by an even number.
 $991 \div 4 = 247\text{ R}3$, leaving a remainder, so 991 is not divisible by 4.
- a. $26 = 2 \times 13$ b. $40 = 2 \times 2 \times 2 \times 5$ c. 59 is prime

Large Numbers

- a. 70 016 090 b. 32 000 232 000
- It is about $32\,000 \times 300 = 9\,600\,000$. Other estimates are also possible.
- 80 million or 80 000 000
- 11.

<i>number</i>	593 204	19 054 947
to the nearest 1 000	593 000	19 055 000
to the nearest 10 000	590 000	19 050 000
to the nearest 100 000	600 000	19 100 000
to the nearest million	1 000 000	19 000 000

Problem Solving

- A 3-metre-long board is 300 centimetres. One-sixth of that is $300 \text{ cm} \div 6 = 50 \text{ cm}$. The remaining piece is 250 centimetres, or 2 m 50 cm.
- It would cost \$9.00 to download ten songs. First, find the price of one song download: $\$5.40 \div 6 = \0.90 . Then, multiply that by 10.
- A lunch in the cafeteria costs $1/3$ of \$36, or \$12. Mary spends $\$36 + 4 \times \$12 = \$84$.

-

One block in the model is $\$42 \div 6 = \7 . The red swimsuit costs $5 \times \$7 = \35 . Together they cost \$77.

← 134 →

16. a.

green	green	purple	purple	purple
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b. One block or part in the model is $134 \div 2 = 67$ marbles. There are $3 \times 67 = 201$ purple marbles.

17. a. The DVD costs about \$30. Karen pays $\frac{3}{5}$ of it, which is about $\$30 \div 5 \times 3 = \18 . Ann pays about \$12.

b. Karen pays $\$29.90 \div 5 \times 3 = \17.94 . Ann pays \$11.96.

Decimals

18. a. 0.289 b. 0.30 c. 0.305 d. 0.313

19. a. 0.95 b. 0.72 c. 0.62 d. 1.26 e. 1.05 f. 0.37

20. a. 0.08 b. 0.081 c. 5.21

21. a. $\frac{48}{1000}$ b. $1 \frac{4}{1000}$ c. $7 \frac{22}{100}$

22. a. $0.31 > 0.031$ b. $0.43 > 0.093$ c. $1.6 > 1.29$

23.

rounded to...	nearest one	nearest tenth	nearest hundredth
5.098	5	5.1	5.10

rounded to...	nearest one	nearest tenth	nearest hundredth
0.306	0	0.3	0.31

24.

a. $0.4 \times 7 = 2.8$	d. $10 \times 0.05 = 0.5$	g. $1.1 \times 0.3 = 0.33$
b. $0.4 \times 0.7 = 0.28$	e. $100 \times 0.05 = 5$	h. $70 \times 0.9 = 63$
c. $0.4 \times 700 = 280$	f. $1000 \times 0.5 = 500$	i. $20 \times 0.09 = 0.18$

25.

a. $0.36 \div 6 = 0.06$	c. $3 \div 100 = 0.03$	e. $16 \div 10 = 1.6$
b. $5.6 \div 7 = 0.8$	d. $0.7 \div 10 = 0.07$	f. $71 \div 100 = 0.71$

26.

a. $0.2 \text{ m} = 20 \text{ cm}$ $37 \text{ cm} = 0.37 \text{ m}$ $2.9 \text{ km} = 2\,900 \text{ m}$	b. $0.4 \text{ L} = 400 \text{ ml}$ $3.5 \text{ kg} = 3\,500 \text{ g}$ $240 \text{ g} = 0.24 \text{ kg}$	c. $3\,670 \text{ mm} = 3 \text{ m } 670 \text{ mm}$ $465 \text{ cm} = 4 \text{ m } 65 \text{ cm}$ $4\,060 \text{ g} = 4 \text{ kg } 60 \text{ g}$
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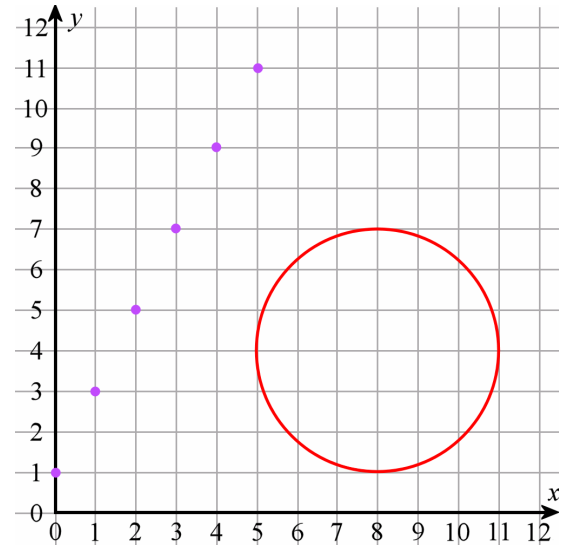
27. There are 444 millilitres in two bowls. Two litres is 2 000 ml. $2\,000 \text{ ml} \div 9 = 222.2 \text{ ml}$ or about 222 ml.

28. a. 1.42 b. 14.28 b. 14.08

Graphs

29.

x	0	1	2	3	4	5
y	1	3	5	7	9	11

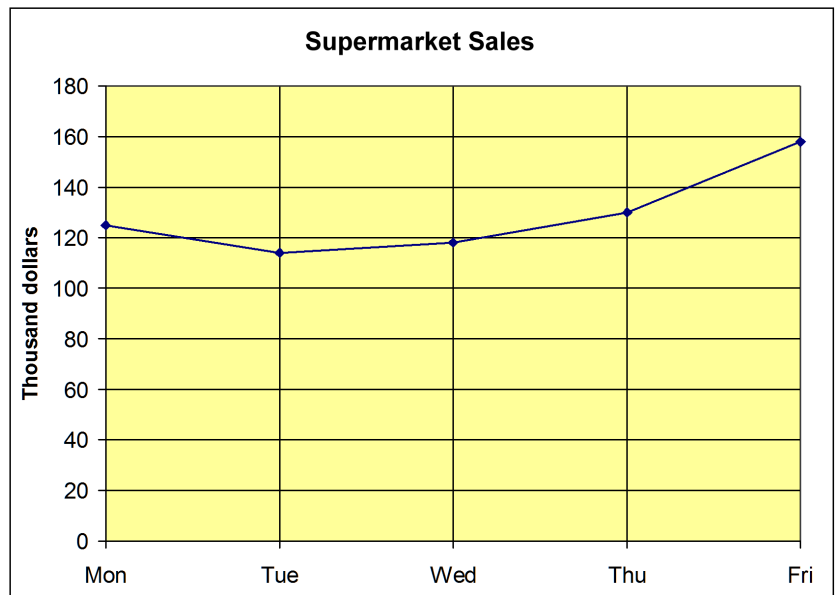


30. See the image on the right.

31.

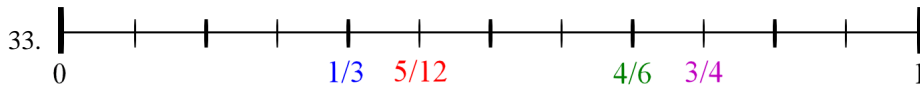
Day	Sales (1 000 dollars)
Mon	125
Tue	114
Wed	118
Thu	130
Fri	158

- See the line graph on the right.
- The average daily sales is \$129 000.



Fractions

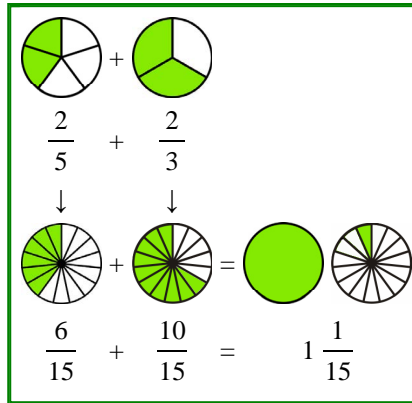
32. a. $6 \frac{1}{3}$ b. $2 \frac{1}{3}$ c. $13 \frac{4}{5}$



34.

a. $\frac{5}{6} = \frac{20}{20}$	b. $\frac{2}{7} = \frac{8}{28}$	c. $\frac{3}{8} = \frac{15}{40}$	d. $\frac{2}{9} = \frac{6}{27}$
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35. Martha found the common denominator (15) correctly, but forgets that the 2 fifths and the 2 thirds do not stay as 2 fifteenths in the conversion.



36. a. $1 \frac{1}{6}$ b. $7/15$ c. $5 \frac{5}{8}$ d. $10 \frac{5}{18}$

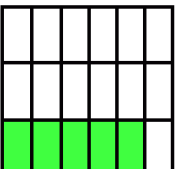
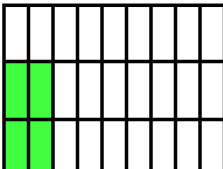
37. You would need $3 \times (2 \frac{3}{4}) = 8 \frac{1}{4}$ cups of flour to make three recipes of rolls.

38. a. $\frac{6}{9} > \frac{6}{13}$ b. $\frac{6}{13} < \frac{1}{2}$ c. $\frac{5}{10} > \frac{48}{100}$ d. $\frac{1}{4} = \frac{25}{100}$ e. $\frac{5}{7} > \frac{7}{10}$

39. a. $1 \frac{2}{5}$
 b. cannot be simplified
 c. $7/8$

40. Yes, it is correct. $(2/3) \times (1/2) = 1/3$.

41.

	
a. $\frac{1}{3} \times \frac{5}{6} = \frac{5}{18}$	b. $\frac{2}{9} \times \frac{2}{3} = \frac{4}{27}$

42. You can cut 60 pieces. $15 \text{ m} \div (1/4 \text{ m}) = 60$

43. $1/6$ of the pizza. $(1/2) \div 3 = 1/6$

44. a. $10 \frac{1}{2}$ b. $1/21$ c. $2 \frac{14}{15}$ d. 18

Geometry

45. Answers may vary. If you printed the test yourself, your printer may have scaled the document to fit, instead of printing it at 100%. Please check the measurements the student has given as his or her answer. Two possible sets of answers are:

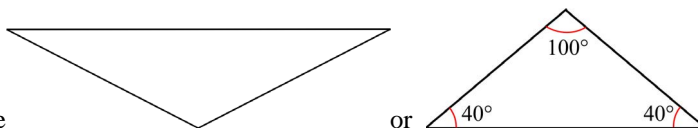
(Printed at 100%) The sides measure 7.9 cm, 6.8 cm, and 13.3 cm. The perimeter is 28 cm.

(Print to fit) The sides might measure 7.5 cm, 6.5 cm, and 12.5 cm. The perimeter is 26.5 cm.

46. a. an isosceles acute triangle b. a rhombus c. a right scalene triangle d. a trapezium

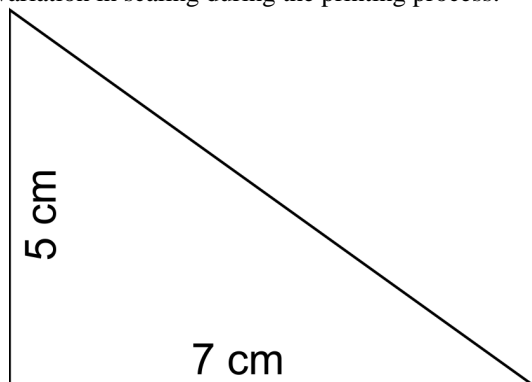
47. a. 9 m^2
b. 20 cm

48. A trapezium is a quadrilateral with at least one pair of parallel sides. A square fulfils that definition, so it is classified as a trapezium, also.



49. Yes, it can. For example

50. a. Check the triangles that the student drew. The student should use a tool, such as a triangular ruler or a protractor, to make the right angle. The picture below may be slightly out of scale when printed, due to the possible variation in scaling during the printing process.



b. $8.6 \text{ cm} + 5 \text{ cm} + 7 \text{ cm} = 20.6 \text{ cm}$

c. They measure $\underline{90^\circ}$, $\underline{36^\circ}$, and $\underline{54^\circ}$.

51. The volume is $5 \text{ cm} \times 10 \text{ cm} \times 4 \text{ cm} = 200 \text{ cm}^3$.

52. a. $1.2 \text{ m} \times 0.6 \text{ m} \times 1 \text{ m} = 0.72 \text{ m}^3$.

b. 240 litres. 0.72 m^3 is 720 litres, and one-third of that is 240 litres.