

Math Mammoth Grade 5 End-of-the-Year Test South African Version Answer Key

Please see the file for the End-of-the-Year Test for grading instructions.

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. $143 = 13 \times (5 + 6)$
- $(R119,95 - R5) \times 5$ or $5 \times (R119,95 - R5)$. The total cost was R574,75.
- 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.

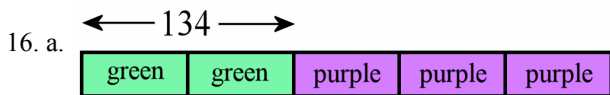
<i>number</i>	593 204	19 054 947
to the nearest 1 000	593 000	19 055 000
to the nearest 10 000	590 000	19 050 000
to the nearest 100 000	600 000	19 100 000
to the nearest million	1 000 000	19 000 000

Problem Solving

- A 3-m 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 R81 to download ten songs. First, find the price of one song download: $R48,60 \div 6 = R8,10$. Then, multiply that by 10.
- A lunch in the cheap restaurant costs $\frac{1}{3}$ of R96, or R32. Mary spends $R96 + 4 \times R32 = R224$.

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One block in the model is $R540 \div 6 = R90$. The red swimsuit costs $5 \times R90 = R450$. Together they cost R990.



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 R220. Karen pays $\frac{3}{5}$ of it, which is about $R220 \div 5 \times 3 = R132$. Daleen pays about R88.

b. Karen pays $R219,75 \div 5 \times 3 = R131,85$. Daleen pays R87,90.

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. $5\,750 \text{ g} = 5 \text{ kg } 750 \text{ g}$ $962 \text{ cm} = 9 \text{ m } 62 \text{ cm}$ $3\,249 \text{ ml} = 3 \text{ L } 249 \text{ ml}$
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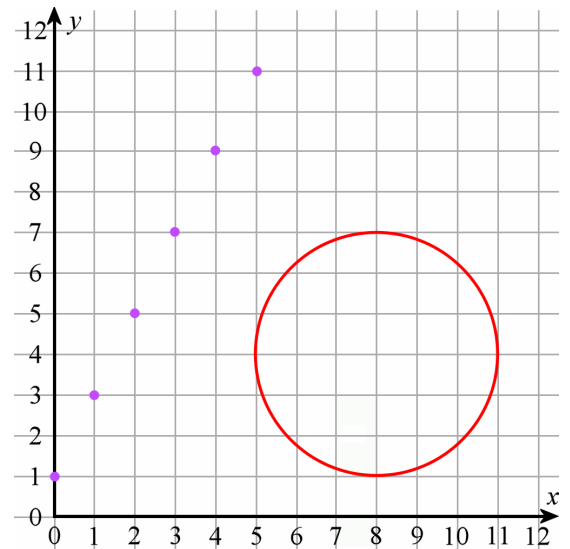
27. There are 444 millilitres in two bowls. Two litres is 2 000 ml. $2\,000 \text{ ml} \div 9 = 222,2 \text{ ml}$ or about 222 ml.

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

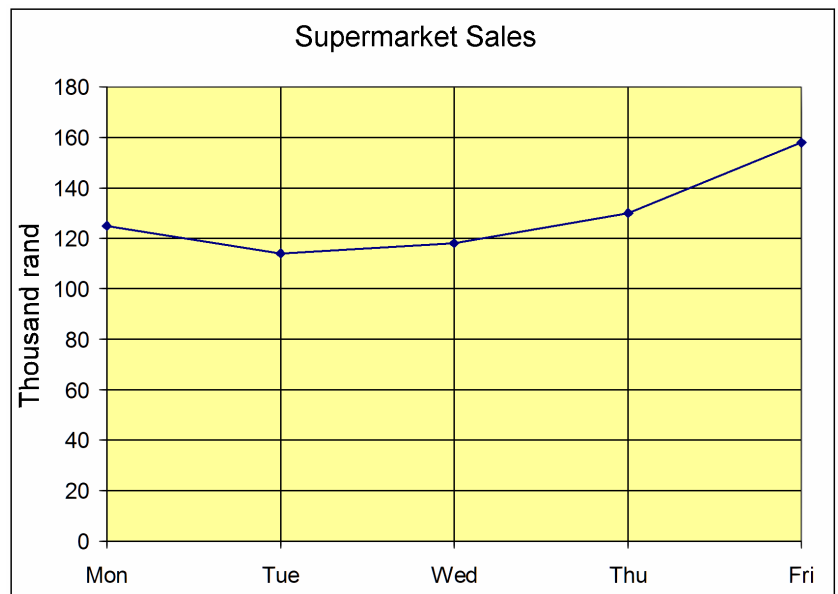


30. See the image on the right.

31.

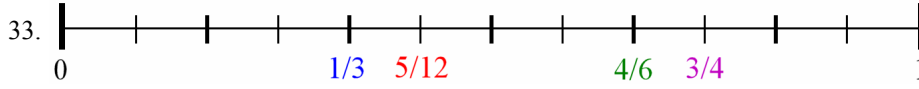
Day	Sales (1 000 rand)
Mon	125
Tue	114
Wed	118
Thu	130
Fri	158

- See the line graph on the right.
- The average daily sales is R129 000.



Fractions

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



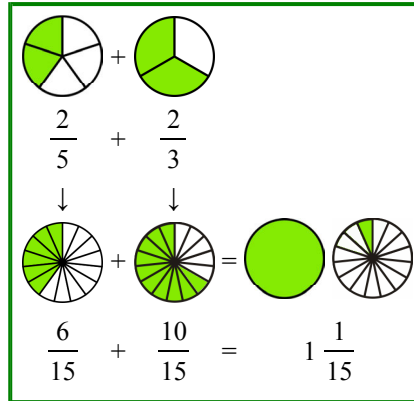
34.

a. $\frac{5}{6} = \frac{\quad}{20}$	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. Lizelle finds 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. $\frac{7}{15}$ c. $5 \frac{5}{8}$ d. $10 \frac{5}{18}$

37. You would need $5 \times (\frac{1}{3}) = 1 \frac{2}{3}$ kg of flour to make five batches 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. $\frac{7}{8}$

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

41.

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

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

43. $\frac{1}{6}$ of the pizza. $(\frac{1}{2}) \div 3 = \frac{1}{6}$

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

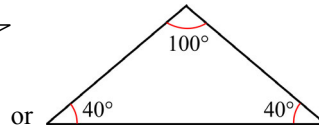
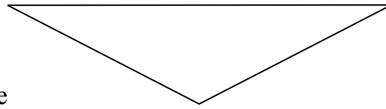
Geometry

45. Due to variations in printing, the measurements may vary. Please check the student's work.
The sides measure $7\frac{1}{2}$ cm, $6\frac{1}{4}$ cm, and $12\frac{3}{5}$ cm. The perimeter is $26\frac{7}{20}$ cm.

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

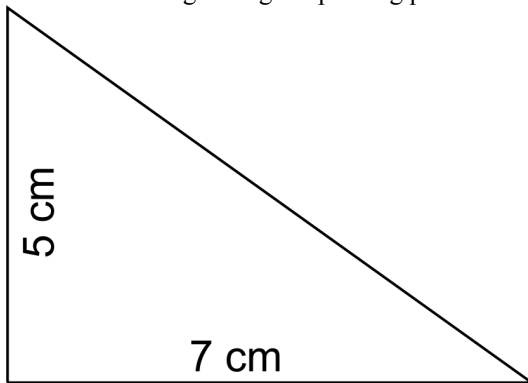
47. a. 9 m^2 b. 20 cm

48. Yes, it is. A square has one pair of parallel sides, which is a definition of a trapezium.



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 90°, 36° and 54°.

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. $0,72\text{ m}^3$ is 720 litres, and one-third of that is 240 litres.