Grade 6 | Mental Maths | Term 4
Answers

Question 1

Circle the correct answer/s.

a) What number is 1HM less than 252 356 100 ?

A 251 356 100   **B** 151 356 100 ✓ C 151 356

b) The largest 2-digit prime number is:

A 99   B 89   **C** 97 ✓   D 98

c) The largest odd number below is:

A 105   B 891   **C** 100 527 ✓ D 9 881 538

d) 1 million more than 354Th is:

A 1 354 000 ✓   B 1,354   C 100 354 000

e) 482 102 rounded to the nearest 5 is:

A 482 105   B 483 100   **C** 482 100 ✓

f) The prime factors of 24 are:

A 2 ✓   B 1   C 4   **D** 3 ✓   E 12

g) Thirteen million, five hundred and seven is written as:

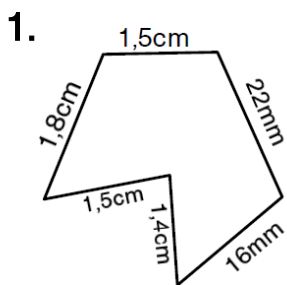**A** 13 000 507 ✓   B 13 507 000   C 13 507

Total 8 /8

Question 2

a) $413 \times 2 = 826$ ✓

b) $17 \times 1 = 17$ ✓

c) $17 \div 1 = 17$ ✓

d) $250 \div 0 = \text{undefined}$ ✓

e) $112 \times 0 = 0$ ✓

f) $362 \div 362 = 1$ ✓

g) 45×99 $= 45 \times (100 - 1) = 4500 - 45$
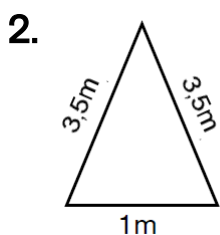 $= 4455$ ✓

h) $14 \times 3 = 42$ ✓

Total 8 /8

Question 3

Calculate the perimeter of the shapes below:

1.

$P = 1,5 + 2,2 + 1,6 + 1,4 + 1,5 + 1,8$
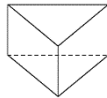$= 10\text{cm}$ ✓

*Remember 10mm = 1cm

2.
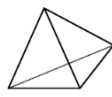
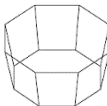$P = 3,5 + 3,5 + 1$
$= 8\text{m}$ ✓

Total 2 /2

Question 4

3-D Object	Name	No. Faces	No. Vertices
	Cube ✓	6 ✓	8 ✓
	Triangular Prism ✓	5 ✓	6 ✓
	Triangular-based Pyramid ✓	4 ✓	4 ✓
	Octagonal Prism ✓	10 ✓	16 ✓

Complete the table:

Total 12 /12

Question 5

1. **Nicolai lives 17 km from where he works. He drives to work and back 3 times per week.**

a) How far does he drive to work and back each week?

Return trip $= 17$ km $\times 2 = 34$ km

Total per week $= 3 \times 34$ km $= 102$ km ✓

b) How far does he drive in 33 weeks? 102 km $\times 33 = 3\,366$ km

Or $34 \times (33 \times 3) = 34 \times 99 = 3\,366$ km ✓

c) If he drives at 34km/h how long does it take him to drive to work from his house?

17km $\div 34$ km/h $= 0{,}5$ hours $= 30$mins ✓

2. **In 7 hours John drove 805km and Thabo drove 749km.**

(assume constant speeds for this question)

a) At what speed did John drive?

805 km $\div 7$ hours $= 115$ km/h ✓

b) At what speed did Thabo drive?

749 km $\div 7$ hours $= 107$ km/h ✓

c) Which driver travelled at the fastest speed? John ✓

Total 6 /6

Question 6

a) $14 - 5 + 11 = 9 + 11 = 20$ ✓

b) $72 \div 6 \times 9 = 12 \times 9 = 108$ ✓

c) $100 - (99 \div 11) = 100 - 9 = 91$ ✓

d) $150 \div (10 + 5) = 150 \div 15 = 10$ ✓

e) $(125 \div 5) - (3 \times 8) + 2 =$
$25 - 24 + 2 = 1 + 2 = 3$ ✓

f) $9 \times 9 - 9 = 81 - 9 = 72$ ✓

g) $86 - 15 \times 3 = 86 - 45 = 41$ ✓

h) $(78 - 12) \div (2 + 1) =$
$66 \div 3 = 22$ ✓

i) $156 \div 13 \times 3 = 12 \times 3 = 36$ ✓

j) $86 \times 2 - 150 = 172 - 150 = 22$ ✓

k) $12 \times (10 + 7 - 5) =$
$12 \times (17 - 5) = 12 \times 12 = 144$ ✓

Total 11 /11

Question 7

Write a number sentence for each of the following and then find the answer.

a) Multiply the sum of 9 and 8 by 2.
$(9 + 8) \times 2 = 17 \times 2 = 34$ ✓

b) Subtract 12 from the product of 11 and 10.
$11 \times 10 - 12 = 110 - 12 = 98$ ✓

c) Divide 56 by the product of 7 and 2. $56 \div (7 \times 2) = 56 \div 14 = 4$ ✓

d) The sum of two numbers is 52,7. The one number is 11,35. What is the other number?

$11{,}35 + \_\_ = 52{,}7 \rightarrow 52{,}7 - 11{,}35 = 41{,}35$ ✓

Total 4 /4

Question 8

Complete:

1. **The perimeter of a square is 16mm.**

a) What is the length of 1 side? $L = 16$mm $\div 4 = 4$ mm ✓

b) What is the area of the square?
$A = L \times L = 4 \times 4 = 16$ mm^2 ✓

2. **A rectangle is 1cm wide and 15cm long.**

a) What is the perimeter of the rectangle? $P = 2$cm $+ 30$cm $= 32$cm ✓

b) What is the area of the rectangle?
$A = L \times B = 1 \times 15 = 15$ cm^2 ✓

Total 4 /4

Question 9

Fill in the missing number/s to make each statement correct.

a) $426 \times (20 + 5) =$
   $(426 \times 20) + (426 \times 5)$ ✓✓

b) $312 \times 99 =$
   $(312 \times 100) - (312 \times 1)$ ✓✓

c) $26 \times (80 - 7) =$
   $(26 \times 80) - (26 \times 7)$ ✓✓

d) $\frac{3}{4}$ of 1 million $^{= 750\,000} =$
   $340\,000 + 410\,000$ ✓

e) $0 \div 123 \,^{=0} = 563 \times 0$ ✓

f) $\frac{1}{2} = \frac{36}{72}$ ✓   ($\times 36$)

g) $\frac{5}{8} = \frac{60}{96}$ ✓   ($\times 12$)

Total 10 /10

Question 10

1. Write down the first 5 multiples of:

a) 25. 25 , 50 , 75 , 100 , 125. ✓

b) 16. 16 , 32 , 48 , 64 , 80. ✓

c) 30. 30 , 60 , 90 , 120 , 150. ✓

2. Write down the prime factor/s of each number.

a) 30. 2, 3 and 5. ✓ [1, 2, 3, 5, 6, 10, 15, 30]

b) 15. 3 and 5. ✓   [1, 3, 5, 15]

c) 32. 2. ✓ [1, 2, 4, 8, 16, 32]

Total 6 /6

Question 11

True or False?
If false, give the correct answer.

a) To draw a reflection of a shape is to draw its mirror image. True. ✓

b) The size of a figure changes when it is translated. False.
   Its size remains the same, its position changes. ✓

c) Reducing a shape by a factor of 3 is the same as enlarging it by a factor of $\frac{1}{4}$. False. ✓
   It enlarges by a factor of $\frac{1}{3}$.

d) The new postion of a figure is called the image of the original figure. True. ✓

Total 4 /4

Question 12

a) $18,7 - 5,5 = 13,2$ ✓

b) $12,2 \div 100 = 0,122$ ✓

c) $0,003 \times 100 = 0,3$ ✓

d) It takes Fred 3min 14 sec to do 1 sum. How long will it take him to do 7 similar sums?
   3min 14sec $\times$ 7 = 21min 98sec = 22min 38sec (98sec = 1min 38sec) ✓

e) It takes Jess 88min 40sec to draw 8 small pictures. How long does it take her to draw 1 similar picture?
   88min 40sec $\div$ 8 = 11min 5sec ✓

Total 5 /5

Question 13
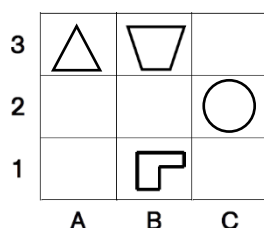
a) $250 \div 10 = 25$ ✓

b) $81 \div 9 = 9$ ✓

c) $92 \div 12 = 7\text{ r }8$ ✓

d) $2000 \div 25 = 80$ ✓

e) $63 \div 7 = 9$ ✓

f) $52 \div 4 = 13$ ✓

g) $457 \div 10 = 45{,}7\text{ or }45\text{ r }7$ ✓

h) $30 \div 9 = 3\text{ r }3$ ✓

Total 8 /8

Question 14

Fill in the missing numbers.

a) $\dfrac{7}{9} = \dfrac{28}{36}$ ✓ (× 4)

b) $\dfrac{45}{90} = \dfrac{1}{2}$ ✓ (× 45)

c) $\dfrac{1}{8} = \dfrac{125}{1000}$ ✓ (× 125)

d) $\dfrac{76}{100} = \dfrac{19}{25}$ ✓ (× 4)

e) $1\dfrac{7}{9} = \dfrac{16}{9}$ ✓

f) $9\dfrac{11}{12} = \dfrac{119}{12}$ ✓

g) $18\dfrac{2}{5} = \dfrac{92}{5}$ ✓

Total 7 /7

Question 15

Fill in the missing word/s in each statement.

a) Co-ordinates tell us exactly where an object is on a grid or map. ✓

b) A compass has a magnetic needle that always points North. ✓✓

c) The compass direction between South and East is
South East (SE). ✓

d) The main compass directions are North, South, East and West. ✓✓✓

e) The triangle is in cell A1. ✓

f) The circle is in cell C2. ✓

g) The trapezium is in cell B3. ✓

Total 10 /10

Question 16

1. A shape is reduced by a factor of 4. Its perimeter is 64m and its area is 96m².

a) What is the perimeter of the reduced shape? $64\text{m} \div 4 = 16\text{m}$ ✓

b) What is the area of the reduced shape? $96\text{m}^2 \div 16 = 6\text{m}^2$ ✓

2. **Complete.** (Assume each square on the grid has a length of 2 mm.)

a) ABCD has been enlarged by a factor of 2 to result in PQRS. ✓

b) The area of ABCD is
$4\text{mm} \times 4\text{mm} = 16\text{mm}^2$. ✓

c) The area of PQRS is
$8\text{mm} \times 8\text{mm}$
$= 64\text{mm}^2$ ✓
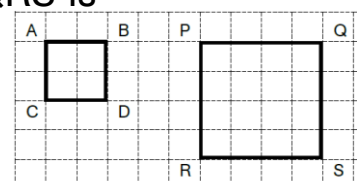
Total 5 /5

Question 17

1. To mix 15ℓ of orange paint Tom needs 9ℓ of yellow paint and 6ℓ of red paint.

a) How much yellow paint does Tom need to mix 30ℓ of orange paint?
   9ℓ × 2 = 18ℓ ✓

b) How much red paint does Tom need to mix 7,5ℓ of orange paint?
   6ℓ ÷ 2 = 3ℓ ✓

2. Theo has a 527 page book. He has already read 17 pages of it. If he reads 34 pages a day how many days will it take him to read the remaining pages of his book?
   No. remaining pages = 527 − 17 = 510
   510 ÷ 34 = 15 days ✓

Total **3** /3

Question 18

1. Write each mixed number as an improper fraction.

a) $10\frac{7}{9} = \frac{97}{9}$ ✓

b) $6\frac{2}{5} = \frac{32}{5}$ ✓

c) $8\frac{4}{7} = \frac{60}{7}$ ✓

d) $15\frac{1}{2} = \frac{31}{2}$ ✓

2. Find the LCD of:

a) $\frac{2}{3}$ and $\frac{1}{27}$ LCD = 27 ✓

b) $\frac{3}{4}$ and $\frac{1}{5}$ LCD = 20 ✓

c) $\frac{7}{9}$ and $\frac{7}{4}$ LCD = 36 ✓

Total **7** /7

Question 19

True or False?
If false, give the correct answer.

a) 354 × 26 = 9 204. True. ✓

b) Volume = L × B. False. ✓
   V = L × B × H or Area of a rectangle = L × B

c) 478 × 32 = 15 300. False. 15 296 ✓

d) 5 × 4 × 2 = 4 × 5 × 2 . True. ✓

e) 126 is divisble by 3 and 5. False.
   126 is divisible by 3 but not 5. ✓

f) 48 is a multiple of 6 and 16.
   True. ✓

g) 212 and 452 are both multiples of 4. True. ✓

Total **7** /7

Question 20

Complete and write each answer as a mixed number.

a) $1\frac{2}{3} + 2\frac{2}{3} + 3 = 7\frac{1}{3}$ ✓

b) $7\frac{2}{7} + 3\frac{1}{7} = 10\frac{3}{7}$ ✓

c) $5\frac{3}{4} - 3\frac{2}{4} = 2\frac{1}{4}$ ✓

d) $11\frac{8}{12} - 5\frac{5}{12} - 2\frac{1}{12} = 4\frac{2}{12}$ ✓

e) $3\frac{2}{3} + 7\frac{1}{6} = 10\frac{5}{6}$ ✓ (LCD is 6)

f) $5\frac{11}{12} - 4\frac{2}{4} + 3 = 4\frac{5}{12}$ ✓ (LCD is 12)

g) $1\frac{1}{3} + 2\frac{6}{9} = 3\frac{9}{9} = 4$ ✓ (LCD is 9)

Total **7** /7

Question 21

Fill in the symbol = , > or <.

a) $\frac{30}{45} = \frac{2}{3} < \frac{32}{45}$ ✓

b) $\frac{24}{36} = \frac{8}{12} = \frac{24}{36}$ ✓

c) $\frac{9}{10} > \frac{1}{2} = \frac{5}{10}$ ✓

d) $\frac{15}{24} = \frac{5}{8} > \frac{7}{12} = \frac{14}{24}$ ✓

e) $\frac{77}{8} = 9\frac{5}{8} < 10\frac{1}{8} = \frac{81}{8}$ ✓

f) $0{,}002 = \frac{2}{1000} < 0{,}65$ ✓

g) $\frac{75}{100} = \frac{3}{4} = 75\%$ ✓

h) $50\% = \frac{12}{24} < 82\%$ ✓

i) $16 = \frac{1}{2}$ of $32 > 15{,}9$ ✓

Total 9 /9

Question 22

1. A number from 1 to 15 is chosen at random.

a) What is the probability of choosing a multiple of 2? $\frac{7}{15}$ ✓

[1, 2 , 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15]

b) What is the probability of choosing an odd number? $\frac{8}{15}$ ✓

[1, 2 , 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15]

2. If you roll a normal six-sided die, what is the probability of:

a) Rolling a 3? $\frac{1}{6}$ ✓

b) Rolling a 9? $\frac{0}{6} = 0$ ✓

c) Rolling a factor of 4? $\frac{3}{6} = \frac{1}{2}$ ✓ (1, 2, 4)

d) Rolling a multiple of 1? $\frac{6}{6} = 1$ ✓

Total 6 /6

Question 23

Fill in the missing numbers.

a) $\underline{8 + 5} - 9 = 4$ ✓
$\underline{13} - 9 = 4$

b) $9 \times 6 \,^{= 54} = 108 \div 2 \,^{= 54}$ ✓

c) $27 - (\underline{3 \times 4}) = 3 \times 5 \,^{= 15}$ ✓
$27 - \underline{12} = 15$

d) $8 = (\underline{108 - 12}) \div 12$ ✓
$8 = \underline{96} \div 12$

e) $35 + (\underline{6 \times 6}) = 70 + 1 \,_{= 71}$ ✓
$35 + \underline{36} = 71$

f) $5 \times (10 - 1) = 45$ ✓
$5 \times \underline{9} = 45$

g) $(200 \div \underline{5}) + 15 = 95 - 40$ ✓
$40 + 15 = 95 - 40 = 55$

Total 7 /7

Question 24

Write each fraction in its simplest form.

a) $\frac{75}{100} = \frac{3}{4}$ ✓

b) $\frac{15}{50} = \frac{3}{10}$ ✓

c) $\frac{12}{16} = \frac{3}{4}$ ✓

d) $\frac{7}{21} = \frac{1}{3}$ ✓

e) $\frac{18}{36} = \frac{1}{2}$ ✓

f) $\frac{14}{24} = \frac{7}{12}$ ✓

g) $\frac{9}{36} = \frac{3}{12} = \frac{1}{4}$ ✓

Total 7 /7

Question 25

Write each decimal fraction as a percentage.

a) $0{,}68 = 68\%$ ✓

b) $0{,}05 = 5\%$ ✓

c) $0{,}435 = 43{,}5\%$ ✓

Write each common fraction in decimal form.

a) $\dfrac{1}{8} = \dfrac{125}{1000} = 0{,}125$ ✓

b) $\dfrac{14}{20} = \dfrac{7}{10} = 0{,}7$ ✓

c) $\dfrac{13}{10} = 1{,}3$ ✓

Total 6 /6

Question 26

Arrange the following fractions in ascending order of size.

a) $\dfrac{4}{5}$, $\dfrac{6}{10}$, $\dfrac{15}{30}$ $\dfrac{15}{30}$, $\dfrac{6}{10}\left(\dfrac{18}{30}\right)$, $\dfrac{4}{5}\left(\dfrac{24}{30}\right)$ ✓

b) $\dfrac{14}{21}$, $\dfrac{3}{7}$, $\dfrac{10}{3}$ $\dfrac{3}{7}\left(\dfrac{9}{21}\right)$, $\dfrac{14}{21}$, $\dfrac{10}{3}\left(\dfrac{70}{21}\right)$ ✓

c) $\dfrac{1}{3}$, $\dfrac{7}{24}$, $\dfrac{5}{6}$ $\dfrac{7}{24}$, $\dfrac{1}{3}\left(\dfrac{8}{24}\right)$, $\dfrac{5}{6}\left(\dfrac{20}{24}\right)$ ✓

Complete.

a) $\dfrac{1}{8}$ of 72 = 9 ✓

b) $\dfrac{7}{25}$ of 150 = 42 ✓

c) $\dfrac{1}{4}$ of 92 = 23 ✓

Total 6 /6

Question 27

There are 6 blue balls, 7 green balls, 3 red balls and 1 yellow ball in a bag. I take one ball out at a time and then put it back afterwards.

a) How many outcomes are there?
$6 + 7 + 3 + 1 = 17$ ✓

b) What is the probability of taking out a green ball? $\dfrac{7}{17}$ ✓

c) What is the probability of taking out a yellow or a red ball?
$\dfrac{1 + 3}{17} = \dfrac{4}{17}$ ✓

d) What is the probability of taking out a purple ball? 0 ✓

e) What is the probability of taking out a blue or a white ball?
$\dfrac{6 + 0}{17} = \dfrac{6}{17}$ ✓

Total 5 /5

Question 28

Thabo has 7kg of flour and 4kg of sugar. He uses 2,1kg of flour and 1,8kg of sugar to bake 1 batch of biscuits.

a) How much flour does he have left? 7kg − 2,1kg = 4,9kg ✓

b) How much sugar does he have left? 4kg − 1,8kg = 2,2kg ✓

c) How many more batches of biscuits can he make with the remaining flour and sugar? Which ingredient will he run out of first? 1 batch. He will run out of sugar first. ✓✓

d) A batch of biscuits costs R75 to bake. He sells 1 batch for R165,50. How much profit does he make per batch?
R165,50 − R75 = R90,50 ✓

Total 5 /5

Question 29

a) $23 \times 34 = 782$ ✓

b) $151 \times 2 = 302$ g ✓

c) $1\,501 \times 2 = 3\,002$ ✓

d) $5 \div 5 = 1$ ✓

e) $100 \times 0 = 0$ ✓

f) $10 \div 0 = $ undefined ✓

g) 1% of $3\,000 = 30$ ✓

h) $5 \text{ cm} + 5 \text{ cm} + 2,6 \text{ cm} = 12,6 \text{ cm}$ ✓

Total **8** /8

Question 30

a) $4 \text{ cm} \times 4 \text{ cm} = 16 \text{ cm}^2$ ✓

b) $48 \div 4 = 12$ ✓

c) $568 \div 4 = 142$ ✓

d) $(600 \div 40) - 15$
$= 15 - 15 = 0$ ✓

e) $(10 + 8) \div 9 = 2$ ✓

f) $100 - 9 \times 9 = 19$ ✓

g) $8 \times 8 + 4 \times 4$
$= 64 + 16 = 80$ ✓

h) $18 - 3 \times 4 = 18 - 12 = 6$ ✓

Total **8** /8

Question 31

a) $8,8 - 4,9 = 3,9$ ✓

b) $0,03 \times 10 = 0,3$ ✓

c) $250 \text{ km} \div 5h = 50 \text{ km/h}$ ✓

d) $120 \text{ km/h} \times 2h = 240 \text{ km}$ ✓

e) $3\,000 \div 125 = 24$ ✓

f) $4 \text{ mm} + 3 \text{ m} = 3,004 \text{ m}$ ✓

g) $3\,000 \div 5 = 600$ ✓

h) $15 \times 15 = 225$ ✓

Total **8** /8

Question 32

a) $(5 \times 40) - 12$
$= 200 - 12 = 188$ ✓

b) $56 \div 8 + 122$
$= 7 + 122 = 129$ ✓

c) $11 \times 13 = 143$ ✓

d) $16 \times 15 = 240$ ✓

e) $30 \div 8 = 3 \text{ r } 6$ ✓

f) $57 \div 9 = 6 \text{ r } 3$ ✓

g) $7,1 \text{km} \times 9 = 63,9 \text{ km}$ ✓

h) $4\,000\,000 + 7\text{HTh} + 3 + 8\text{H}$
$= 4\,000\,000 + 700\,000 + 800 + 3$
$= 4\,700\,803$ ✓

Total **8** /8