



Subject: Grade 7 Mathematics

Topic: Mathematics: Term 1 - Mini-Exam

Total: 79 Marks

1. false

2 marks

Explanation:

The amount of money to be spent on **each** centre was **divided between** the 3 centres.

$$R18\,954,00 \div 3 = R6\,318,00$$

2. 6 | 12

4 marks

Explanation:

A radius is a line drawn from the centre to the circumference of the circle. In this diagram, it is shown as 6 cm. The diameter is twice the length of the radius, therefore it is 12 cm.

3. -36

3 marks

Explanation:

$$\begin{aligned}(12 - 8)^3 - (5 \times 2)^2 &= 4^3 - 10^2 \\ &= 4 \times 4 \times 4 - 10 \times 10 \\ &= 64 - 100 \\ &= -36\end{aligned}$$

4. A: 200

4 marks

Explanation:

It is important to follow the BODMAS rule:

Brackets $(8 \times 10) = 80$

Of / **O**rders

Division

Multiplication $5 \times 20 = 100$

Addition 20

Subtraction

$$20 + 100 + 80 = 200$$

5. false

2 marks

Explanation:

Counting numbers begin at 0, and continues after that with positive whole numbers.



6. >

3 marks

Explanation:

$$612\,341 = 600\,000 + 10\,000 + 2\,000 + 40 + 1$$

$$612\,314 = 600\,000 + 10\,000 + 2\,000 + 10 + 4$$

The value of the tens shows us that the first number is bigger than the second number.

7. 45 | 15

4 marks

Explanation:

The **lowest common multiple** of two numbers is the smallest number that is a multiple of both numbers:

Multiples of 15 = 15; 30; 45; 60; ...

Multiples of 45 = 45; 90; 135; 180; ...

45 is the **lowest common multiple**.

The **highest common factor** of a set of numbers is the largest factor that the numbers have in common.

Factors of 15 = 1; 3; 5; 15

Factors of 45 = 1; 3; 5; 9; 15; 45

15 is the **highest common factor**.

8. 141

3 marks

Explanation:

Write the numbers in expanded notation, then do the calculations in brackets first.

$$\begin{aligned} 4^2 + 5^3 &= (4 \times 4) + (5 \times 5 \times 5) \\ &= 16 + 125 \\ &= 141 \end{aligned}$$

9. A: acute

4 marks

Explanation:

An acute angle is greater than 0° but smaller than 90° . Therefore, an angle of 60° is an **acute angle**.

10. 132° | opposite angles

4 marks

Explanation:

Opposite angles of a parallelogram are equal.

Adjacent angles of a parallelogram are equal to 180° . e.g. $(\angle ADC + \angle BAD = 180^\circ)$

11. 12

3 marks

Explanation:

The **lowest common multiple** of two numbers is the smallest number that is a multiple of both numbers:

Multiples of 6 = 6; 12; 18; 24; ...

Multiples of 12 = 12; 24; 36; 48; ...

12 is the **lowest common multiple**.

12. true

2 marks

Explanation:

A curved line is bent. It is continuous and smooth, without any sharp turns.

13. 57 600 | 60 000

2 marks

Explanation:

The nearest 100: the last two digits are less than 50 so we round down.

The nearest 10 000: the last four digits are more than 5 000 so we round up.

14. true

2 marks

Explanation:

The **bigger the digits** in a **negative number**, the **smaller the value** of the number.

$-55 < -50$

15. 269

3 marks

Explanation:

$$\begin{aligned}(2 \times 6)^2 + (45 \div 9)^3 &= 12^2 + 5^3 \\ &= 12 \times 12 + 5 \times 5 \times 5 \\ &= 144 + 125 \\ &= 269\end{aligned}$$

16. A: -4

4 marks

Explanation:

$$8 - 8 = 0$$

That leaves you with -4.

17. true

2 marks

Explanation:

TEST:

$$3 \times 12 + 3 \times 9 = 36 + 27 \\ = 63$$

$$3(12 + 9) = 3 \times 21 \\ = 63$$

18. C: 17

4 marks

Explanation:

$$-3 - (-20) = -3 + 20$$

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19. 8

3 marks

Explanation:

The **highest common factor** of a set of numbers is the largest factor that the numbers have in common.

Factors of 16 = 1; 2; 4; 8; 16

Factors of 24 = 1; 2; 3; 4; 6; 8; 12; 24

The HCF is 8.

20. B: 0

4 marks

Explanation:

The numbers are increasing by 1.

$$B : -2 + 1 = -1$$

$$C : -1 + 1 = 0$$

21. B: >

4 marks

Explanation:

Positive numbers are bigger than negative numbers,

$$\therefore 6 > -15$$

22. 1,6

3 marks

Explanation:

Perimeter of a rhombus = $4s$

$$64 \text{ mm} = 4s$$

$$4s = 64 \text{ mm}$$

$$s = (64 \div 4) \text{ mm}$$

$$= 16 \text{ mm}$$

$$10 \text{ mm} = 1 \text{ cm}$$

$$\therefore \text{one side} = 1,6 \text{ cm}$$

23. true

2 marks

Explanation:

TEST:

$$5 \times 9 \times 2^3 = 45 \times 8$$
$$= 360$$

$$9 \times 2^3 \times 5 = 9 \times 8 \times 5$$
$$= 72 \times 5$$
$$= 360$$

24. isosceles | 180

4 marks

Explanation:

$$GH = GI$$

Two equal sides

$$\angle GHI = \angle GIH$$

Two equal angles

$$150^\circ + 15^\circ + 15^\circ = 180^\circ$$

25. 9 | 4

4 marks

Explanation:

You will have to estimate your answers.

$$9 \times 9 = 81$$

$$\therefore \sqrt{81} = 9$$

$$4 \times 4 \times 4 = 64$$

$$\therefore \sqrt[3]{64} =$$

Total: 79 Marks