



Visakha Vidyalaya – Colombo 05

First Term Test – 2022

Mathematics

Grade 8

Time : $2\frac{1}{2}$ hours

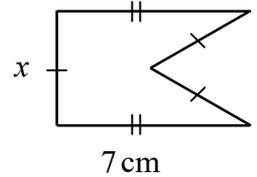
Name / Index Number :

Part I

* Answer all questions on this paper itself.

1. The n^{th} term of a square number pattern is n^2 . Find it's 14th term.

2. If the perimeter of the following figure is 29 cm, find the value of x .



3. Simplify. 0.084×15

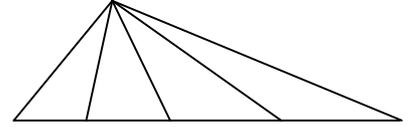
4. Find the value of $b - 3a$. When $a = 2$ and $b = -1$.

5. Name the platonic solids which have equilateral triangular shaped faces.

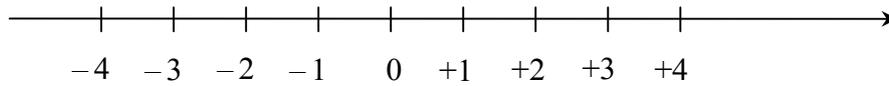
6. Simplify. $3 - 1\frac{1}{5}$

7. Express 0.07 kg in grammes.

8. Find the total number of triangles in the figure?



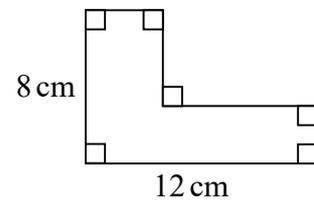
9. Find the value of $(-2) - (-3)$ by using the number line.



10. The age of a mother is 3 years less than four times of her son's age. If the age of son is y years. Write the mother's age as an algebraic expression.

11. Find the value of $\sqrt{\frac{16 \times x^2}{y^2}}$

12. Find the perimeter of the following figure.



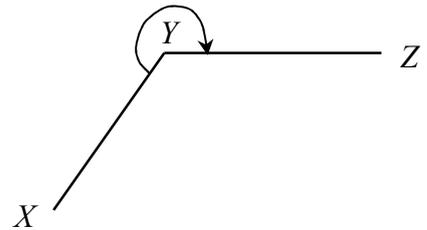
13. What is the sum of the integers from 1 to 30?

14. The area of a square shaped vegetable bed is 196m^2 . Find the length of a side.

15. Solve. $-2 + 3x = 1$

16. The magnitude of the supplement of $\hat{A}BC$ is 72° . Find the magnitude of $\hat{A}BC$.

17. Measure and write the magnitude of $X\hat{Y}Z$ in the given figure.



18. Simplify. $5(30 - 16) \div 7$

19. If $2.34 \times 6 = 14.04$. Find the value of $140.4 \div 6$.

20. The ratio in which granite, sand and cement are mixed in order to prepare a concrete mixture is $3 : 2 : 1$. Find the quantity of sand that should be mixed with 24 pans of granite.

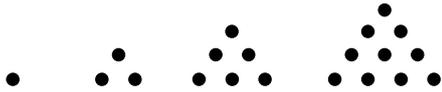
Part II

* Answer all the questions.

1. (a) In the number pattern of 7, 14, 21, 28, ...

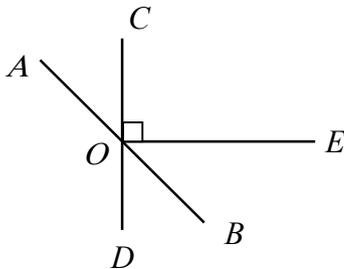
- (i) Write the general term (n^{th} term)
- (ii) What is the 12th term ?
- (iii) Which term is 308 ?
- (iv) Is 250 a term of this number pattern ? Give the reason for your answer.

(b)



- (i) Find the 15th term of the above pattern.
- (ii) Represent the 7th term of this pattern by dots.

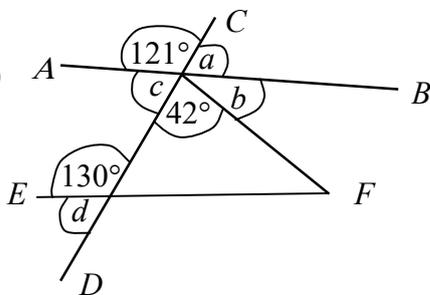
2. (a)



AB and CD are straight line segments.

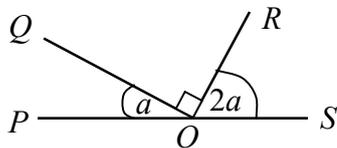
- (i) Name a pair of complementary angles
- (ii) Name a pair of supplementary angles
- (iii) Name a pair of adjacent angles which are not supplement.

(b)



AB, CD and EF are straight line segments. Find the magnitude of the angles marked by an English letter.

(c)



PS is a straight line segment, find the magnitude of \widehat{POR} .

3. (a) Find the value.

- (i) $(-17) + (+5)$
- (ii) $(-6\frac{1}{2}) - (+2) - (-\frac{1}{4})$
- (iii) $(-3.5) \times (-8)$
- (iv) $\frac{(-4) \times (-12) \times (-10)}{(-16) \times (+2)}$

(b) Find the value.

$$\begin{array}{r} \text{(i) kg} \quad \text{g} \\ 5 \quad 75 \\ \times \quad 6 \\ \hline \\ \hline \end{array}$$

(ii) $48 \text{ kg} \div 20$

4. (a) Simplify.

(i) $5(2m - 5n + 1) + 2(8m + n - 5)$

(ii) $3x(2x + 3y - 2z) - 4x(2x - 3y - z)$

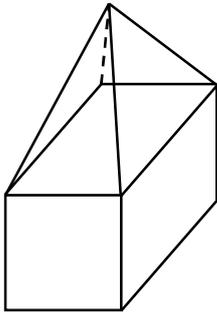
(b) Find the value of the algebraic expression given below. When $a = -2$, $b = 3$ and $c = 4$

$$3(5a - 2b) - 2(3a + b) - 1$$

(c) Write as a product of two factors.

$$\begin{array}{l} -8ab + 12 \\ 4x^2 + 8xy - 4x \end{array}$$

5.



(i) Find the,

I. Number of edges

II. Number of faces

III. Number of vertices

of this solid

(ii) Verify Euler's relationship for this solid.

(b) The length and breadth of a rectangular shaped hall are 10 m and 6 m respectively. How many square shaped tiles with 1 m of perimeter are needed to place one row of tile around the hall.

(c) The length of a rectangular shaped land is twice its breadth. If the perimeter of the land is 390 m, find its length and breadth.
