



Sujatha Vidyalaya

Second Term Test - 2018

Mathematics

Grade - 09

Time - 2 hours

Part 01

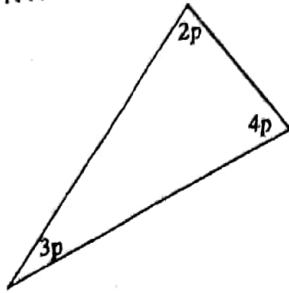
Answer all the Questions.

Write the general term of the following number sequence.

3, 9, 15, 21,

Factorize. $x^2 + 8X + 15$

Fill the value of P.

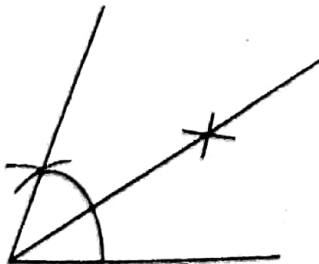


The length, breadth and height of a cuboids shaped tank is 1m, 50cm and 20cm respectively. Write its capacity in litres.

Find the value, $101_{\text{two}} - 11_{\text{two}}$

Calculate the circumference of a circle of diameter 21cm.

The diagram shows the steps followed by a student to construct an angle. Write the magnitude of it.



In a class, $\frac{5}{6}$ have passed mathematics out of 36 students. How many students have failed?

Make 'a' the subject of the formula $X = \frac{a}{b} + c$

Fill in the blanks. $8.2 \text{ m}^3 = \dots\dots\dots / 8.2 \times 10 \dots\dots /$

- 11) In the given diagram $PR = QS$ Show that $PQ = RS$



- 12) By selling an item for Rs. 960, a profit of 20% is obtained. Find its purchase price.

- 13) Place a tick (✓) or a cross (×).

- a) The locus of points on a plane which are at a constant distance from a fixed circle. ()
- b) The locus of points which are at a constant distance from a fixed line is the perpendicular bisector of that straight line. ()
- c) The locus of points equidistant from two intersecting straight lines is the angle bisectors of the angles formed by the intersection of the two lines. ()

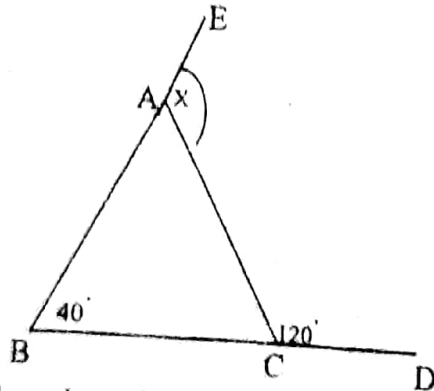
- 14) Find the value. $(2^{-3})^2$

- 15) When a certain number is rounded off to the nearest 100 the number 700 is obtained

I. Smallest number =

II. Largest number = it could be.

- 16) Find the value of x using the given data.



- 17) Find the value using the $9.5^2 - 0.5^2$ knowledge of factors.

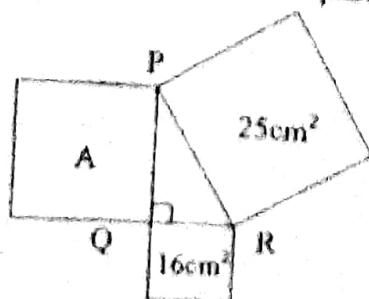
- 18) A motor car travels at a speed of 100kmh^{-1} . Find the distance travelled by a vehicle in 15 minutes.

19) $4x + 3y = 15$

$3x + 4y = 6$

Find the value of $(x+y)$ without solving the simultaneous equations.

- 20) The diagram shows how the squares are drawn on the sides of the right angled triangle PQR

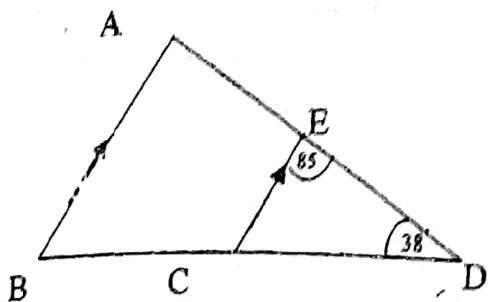


- I. What is the area of the square drawn on the side PQ?
- II. Find the length of the side PQ.

Part II

• Answer 5 Questions including the first one.

1) a) Fill in the blanks according to the given data.

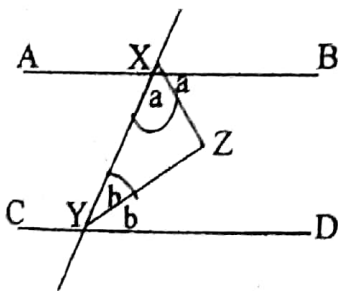


- I. $\angle ABC = \dots\dots\dots$ (a pair of corresponding angles)
- II. $\angle BAC = \dots\dots\dots$ (a pair of alternate angles)
- III. $\angle ABC + \angle BAC = \dots\dots\dots + \dots\dots\dots$ (.....)
- IV. $\angle ABC + \angle BAC = \dots\dots\dots$
- V. Write the theorem related to the above relationship. (5 marks)
- VI. Find the value of $\angle BCE$ using the given diagram. (2 marks)
- VII. Find the value of $\angle ABC$ giving reasons. (1 marks)

(5 marks)
(2 marks)
(1 marks)
(2 marks)

b) In a right angled triangle, the ratio between which are not right angles is 2:3. Find the value of the smallest angle. (2 marks)

c) In the given diagram $a = 55^\circ$ and $b = 35^\circ$



- I. Is $AB \parallel CD$? Give reasons. (2 marks)
- II. Find the value of $\angle C$. (1 marks)
- III. Which type of a triangle is $\triangle XYZ$? (1 marks)

(2 marks)
(1 marks)
(1 marks)

2)

a) Fill in the blanks.

- I. Write an important situation of learning about foreign currency for your life. (1 marks)
- II. There was Rs.80000 in a bank account of a person who lives in abroad. If he spent 150 Euros. (2 marks)
 - 1. Express that amount in Sri Lankan rupees.
 - 2. Find the remaining amount in his account. (1 Euro = 160 Sri Lankan rupees) (3 marks)

- b) I. Simplify and Express answer with a positive index.

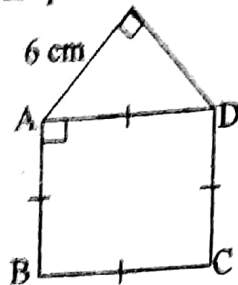
$$\frac{(4a^{2 \cdot 2}) \times 2a^2}{8a^7}$$

- II. Find the value.

$$2^{-2} \times 7^0 + \frac{1}{4}$$

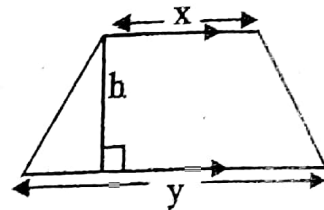
3)

- a) I. Write the Pythagorean relation
 In the given diagram the perimeter of the square ABCD is 40cm
 II. Find the length of a side of it.
 III. Find the length of ED according to the given data.
 IV. Find the perimeter of the diagram ABCDE



- b) If the area of the given trapezium is A,

$$A = \frac{1}{2} (X + Y) \times h$$



- I. Make ' h ' the subject of this formula.
 II. If $A = 100\text{cm}^2$, $X = 15\text{cm}$ and $Y = 5\text{cm}$. Find the length of X.

- 4) Using only the straight edge and the pair of compass and showing the construction lines

- I. Draw the straight line segment AB of length 6cm.
 II. Construct an angle of 60° at A
 III. Construct a perpendicular to AB at B and complete the triangle ABC.
 IV. Construct the locus of points which are equidistant from A and C
 V. Name the point of intersection of the line AC as D
 VI. Construct a circle of radius DA with center D.
 VII. Write a special feature of that circle.