PVG's

Muktangan English School & Jr. College, Pune - 9
Formative Written Test II (2024-25)
Standard - VII

Subject - Mathematics   **Marks - 20**

Date - 31.01.2025   **Time : 8.15 am to 9.30 am**

Q.1 (A) Fill in the blanks by selecting correct alternative and rewrite the statements (2)

    1. $3x \times 4y$ = _____

    $(12\,xy,\ 7xy,\ xy)$

    2. If the diameter of a circle is 28 cm, then its radius is = _____ cm.

    $(4, 7, 14)$

(B) State whether the following statements are true or false and rewrite the statements. (2)

    1. Terms which have the same variables with the same powers are called 'like terms'.

    2. The measure of a semicircular arc is 360^0.

Q.2 Attempt any three of the following (6)

    1) The Diameter of a circle is 14 cm. Find its circumference.

    2) Classify the following algebraic expressions as monomials, binomials, trinomials or polynomials.

      1) $5y - 7z$ 2) $9x$

      3) $5 - 8m + 3m^2$ 4) $2x^3 - 10x^2 + 6x + 5$

    3) Find the area of a rectangle whose length is $(2x + 5)$ cm and breadth is $5x$ cm.

4) If 10 pens cost 60 rupees, what is the cost of 13 such pens?

(Complete the activity by filling in the given boxes)

Solutions:

Let us suppose the cost of 13 pens is x rupees.

The number of pens and their cost vary in $\boxed{}$ proportion.

$$\frac{10}{60} = \frac{\boxed{}}{x}$$

$10 x = \boxed{}$

$x = \boxed{}$

Cost of 13 pens is ₹ = $\boxed{}$

Q.3   **Attempt any two of the following**   **(6)**

1. Observe the figure alongside and complete the following activity.

$m\,Đ\,AOB = \boxed{}$

$m\,(arc\ ACB) = \boxed{}$

Measure of a major arc = $\boxed{}$ – measure of the corresponding minor arc.

$m\,(arc\ ADB) = \boxed{} - \boxed{}$

$= \boxed{}$
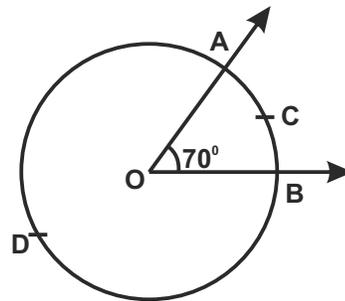
2. Amit took 10 days to finish a book reading 30 pages every day. How many pages must be read in a day to finish it in 12 days?

3. 1) Add :

$-3y^2 + 10y + 16\ ;\quad 7y^2 + 4$

2) Subtract the second expression from the first

$16x + 23y + 12z\ ;\quad 9x - 27y + 14z$

Q.4   **Attempt any one of the following**   **(4)**

1) The diameter of the wheel of a bus is 0.7 m

How many rotations will a wheel complete while travelling a distance of 22 km?

(Fill in the given boxes)

Solution:

Circumference of circle   = ☐

$$= \frac{22}{7} \times 0.7$$

= ☐ m

When a wheel completes one rotation it crosses

a distance of ☐ m

Distance = 22 km = 22 x 1000 = ☐ m

Total number of rotations   = $\dfrac{\text{distance}}{\text{circumference}}$

$$= \frac{22000}{\boxed{}}$$

$$= \frac{\boxed{}}{22}$$

= ☐

Ans : A wheel completes ☐ rotations to cover the distance of 22 km.

2) Ajay and Atul invested 2100 and 2800 rupees respectively and started a business. They made a profit of 3500 rupees. How should it be shared?

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