विद्या सर्वार्थि साधिका

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PERIODIC TEST 3

Class: VIII

Subject: Mathematics M.M: 30

Date : 03 - 01- 2024 Time: 1 Hr. 30 mins

General Instructions:

i) This question paper has 4 Sections A, B, C and D.
ii) Section A has 7 MCQs carrying 1 mark each.
iii) Section B has 5 questions carrying 2 marks each.
iv) Section C has 3 questions carrying 3 marks each.
v) Section D has 1 case based integrated unit of assessment (4 marks) with sub-parts of the values of 1, 1 and 2 marks respectively.
vi) All questions are compulsory. However, an internal choice in two questions of 2 marks have been provided.

SECTION-A

1. Which percentage is equivalent to $\frac{18}{25}$? (1)
(A) 18% (B) 36% (C) 72% (D) 78%

2. The compound interest of ₹ 8000 at the rate 15% per annum for 3 years is : (1)
(A) ₹ 4167 (B) ₹ 12167 (C) ₹16217 (D) ₹ 19687

3. At a sale, a skirt marked ₹ 600, is sold at 45 % discount. What amount should the customer pay for it? (1)
(A) ₹ 330 (B) ₹ 555 (C) ₹ 300 (D) 320

4. Area of the rhombus whose diagonals measure 7.5 cm and 10 cm is ____. (1)
(A) 37.5 sq cm (B) 75 (C) 37.5 cm (D) 75 sq cm

5. The sum of $14a^2bc$ and $-2bca^2$ is _____ (1)
(A) $12\ a^2bc$ (B) $-28\ a^2bc$ (C) 12 abc (D) 12

6. The value of the expression $a(a^2 - 5a + 9) - 8$ when a = 0 is _____. (1)
(A) 1 (B) 3 (C) -8 (D) 0

7. **Assertion (A):** –12a – 9ab + 5b – 3 is a trinomial (1)

Reasons (R): A trinomial is an algebraic expression that has three non-zero terms

(A) Both A and R are true and R is the correct explanation of A
(B) Both A and R are true but R is not the correct explanation of A
(C) A is true but R is false
(D) A is false but R is true

SECTION-B

8. The cost of a production plant is ₹ 90000. If its value depreciates at 10% annually, find the value of the plant after 4 years. (2)

9. The parallel sides of a trapezium are 40 cm and 70 cm. If the non-parallel sides are equal each being 25 cm, find the area of the trapezium. (2)

OR

Find the area of the four walls of a room whose length, breadth and height are 7m, 5m and 4m respectively. Also, find the cost of whitewashing the walls, if the rate of whitewashing is ₹ 6 per square metre. (Ignore the doors, windows and other openings.)

10. What should be taken away from $3x^2 - 4y^2 + 5xy + 20$ to obtain $-x^2 - y^2 + 6xy + 20$? (2)

OR

Find the area of a rectangle with length $(3x - 2)$ units and width $(4x + 10)$ units

11. An air conditioner was bought for ₹ 21800. If 9% of GST is included in the price. Find the original price of the air conditioner. (2)

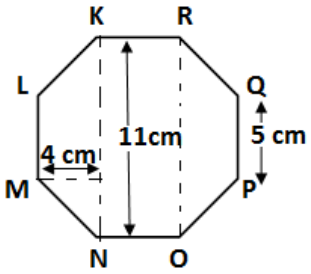
12. A milk tank, in the form of a cylinder, has radius 1.5 m and length 7m. Find the quantity of milk in litres that can be stored in the tank? (2)

SECTION-C

13. Simplify the following expression and find the value when $x = 2,\ \ y = -1$ (3)

$$3x(x - y) + 2y(x - y) - x\,(2 - y)$$

14. The nut of a machine is in regular octagonal shape as shown in the adjoining figure. Find the area of the nut. (3)



15. From the sum of $5x^2 + 2x + 3yx$ *and* $2x(x + 4y)$ subtract $3xy - x^2 + 9x$ (3)

Section-D

16. Pizza factory has come out with two kinds of pizzas. A square pizza of side 45 cm costs ₹150 and a circular pizza of diameter 50 cm costs ₹ 160. (Thickness of both the pizzas is same.) (Use pi = 3.14) (4)
    a) Find the area of the square pizza?
    b) Find the area of the circular pizza?
    c) Which pizza is a better deal? Justify your answer.