Half Yearly Examination 2018-2019
Mathematics

Class : VIII

Time : 2Hrs.+15mins. Reading Time **Full Marks : 80**

SECTION -A

[Attempt all questions]

Question 1

a. Roshan borrows Rs. 86000 from Rishab for 2 years at 5% per annum simple interest. He immediately lends out his money to Amrish at 5% compound interest compounded annually for the same period. Calculate Roshan's profit in the transaction at the end of the years. [4]

b. 36 Kg of gunpowder contain 27 kg nitre, 5.4 kg charcoal and rest sulphur. Find percentage content of sulphur in the gunpowder. [3]

c. Find the value of : $\left(\frac{1}{4}\right)^{-2} + \left(\frac{1}{3}\right)^{-3} + \left(\frac{1}{2}\right)^{-4}$ [3]

Question 2

a. A shopkeeper purchased 200 bulbs for Rs.10 each. However 5 bulbs were fused and had to be thrown away. The remaining were sold at Rs 12 each. Find the gain or loss per cent. [4]

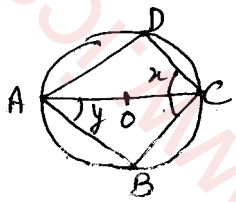
b. Keshav sold an article at a profit of 12%. Had it been sold for Rs.16 more, the profit would have been 20 %. Find the C.P of the article [4]

c. Decrease the number 395 by 6 % [2]

{Turn Over}

Question 3

a. Find the values of x and y ∠ACB = 50 ∠DAC = 32°.[3]



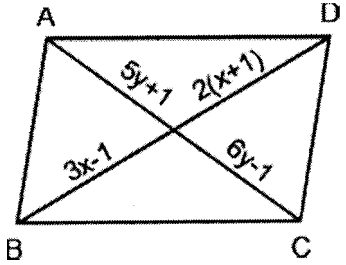
b. Simplify $(2x + 5y)^2 + (2x - 5y)^2$ (ii) 20.5 x 19.5 [4]

c. The size of a plant cell is 0.00001275 m. Express it in standard form. [3]

Question 4

a. Find value of x and y in the following figures.

(i) where ABCD is a parallelogram. [4]



b. If $x + \frac{1}{x} = 4$ Evaluate (i) $x^2 + \frac{1}{x^2}$ (ii) $x^4 + \frac{1}{x^4}$ [3]

c. Rahul got 150 marks out of 200 and Prabha got 180 marks out of 300. Whose performance is better. [3]

Section B (40 marks) Attempt any four questions

Question 5

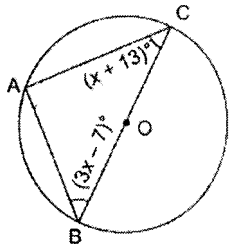
a. Construct a quadrilateral ABCD, where AB = 4.3 cm, BC = 5.2 cm, CD = 6.5 cm, ∠B = 105° and ∠C = 60°. [5]

Question 10

a. Construct a rhombus whose diagonals are 4.8 cm and 6.3 cm. [4]

b. In the given figure, ΔABC is inscribed in a circle with center O.

If ∠ABC – (3x–7)° and ∠ACB = (x–7)°, find the value of x. [3]



c. The area of a rhombus is equal to the area of a triangle whose base and the corresponding altitude are 24.8 cm and 16.5 cm respectively. If one of the diagonals of the rhombus is 22 cm, find the length of the other diagonal. [3]

b. If 60% people in a city like cricket, 30% like football and the remaining like other games, then what per cent of the people like other games? If the total number of people are 50 lakh, find the exact number who like each type of game. [5]

Question 6

a. What amount has to paid to on a loan of Rs 12000 for 1½ years at 10% per annum compounded half yearly. [4]

b. In a parallelogram, the ratio of the adjacent sides is 4 : 5 and its perimeter is 72 cm then, find the sides of the parallelogram. [3]

c. At what rate percent per annum compound interest will Rs. 10000 amount to 11664 in 2 years. [3]

Question 7

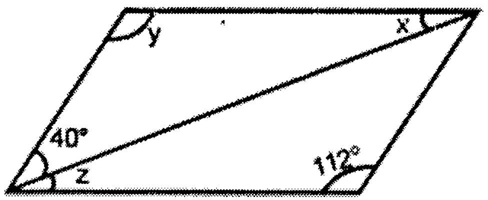
a. A fan is marked ar Rs 15600 and it is available for Rs. 12480. Find the discount given and discount percent. [4]

b. If $x - \frac{1}{x} = 7$ evaluate: i) $x^2 + \frac{1}{x^2}$ ii) $x^4 + \frac{1}{x^4}$ [4]

c. Express 4^{-3} as a power with base 2. [2]

Question 8

a. Consider the following parallelogram. Find the values of the unknowns x and y. [4]



b. If 60% people in a city like cricket, 30% like football and the remaining like other games, then what per cent of the people like other games? If the total number of people are 50 lakh, find the exact number who like each type of game. [5]

Question 6

a. What amount has to paid to on a loan of Rs 12000 for 1½ years at 10% per annum compounded half yearly. [4]

b. In a parallelogram, the ratio of the adjacent sides is 4 : 5 and its perimeter is 72 cm then, find the sides of the parallelogram. [3]

c. At what rate percent per annum compound interest will Rs. 10000 amount to 11664 in 2 years. [3]

Question 7

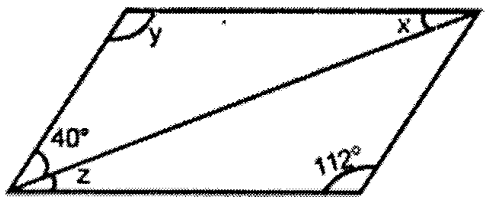
a. A fan is marked ar Rs 15600 and it is available for Rs. 12480. Find the discount given and discount percent. [4]

b. If $x - \frac{1}{x} = 7$ evaluate: i) $x^2 + \frac{1}{x^2}$ ii) $x^4 + \frac{1}{x^4}$ [4]

c. Express 4^{-3} as a power with base 2. [2]

Question 8

a. Consider the following parallelogram. Find the values of the unknowns x and y. [4]



{Turn Over}
3

b. Sweta bought a mobile for Rs. 7550, Find its S.P if it is sold at: [4]

(i) 15% Profit (ii) 10%Loss

c. Find the product of $(9.7)^2$ using identities. [2]

Question 9

a. Choose the correct option: [5]

1. What is the value of $(-1)^{-1}$?

(i) 0 (ii) –1 (iii) 1 (iv) None of these

2. Which of the following quadrilaterals has two pairs of adjacent sides equal and diagonals intersecting at right angles ?

(i) square (ii) rhombus (iii) kite (iv) rectangle.

3. What is the reciprocal of $(-3 / 4)^{O}$?

(i) –1 (ii) 1 (iii) –4/3 (iv) 4/3

4. On what a discount is calculated?

(i) selling price (ii) cost price (iii) marked price

(iv) none of these

5. An article is at 10% more than the CP. If discount of 10% is allowed then which of the following is right?

(i) 1% gain (ii)1% loss (iii) no gain no loss

(iv) 1.1% loss

b. Factorise: [5]

(i) $p^2 - 8p + 16$ ii) $54x^2 - 96y^2$ iii) $5x^2y - 15xy^2$

b. Sweta bought a mobile for Rs. 7550, Find its S.P if it is sold at: [4]

(i) 15% Profit (ii) 10%Loss

c. Find the product of $(9.7)^2$ using identities. [2]

Question 9

a. Choose the correct option: [5]

1. What is the value of $(-1)^{-1}$?

(i) 0 (ii) –1 (iii) 1 (iv) None of these

2. Which of the following quadrilaterals has two pairs of adjacent sides equal and diagonals intersecting at right angles ?

(i) square (ii) rhombus (iii) kite (iv) rectangle.

3. What is the reciprocal of $(-3 / 4)^{O}$?

(i) –1 (ii) 1 (iii) –4/3 (iv) 4/3

4. On what a discount is calculated?

(i) selling price (ii) cost price (iii) marked price

(iv) none of these

5. An article is at 10% more than the CP. If discount of 10% is allowed then which of the following is right?

(i) 1% gain (ii)1% loss (iii) no gain no loss

(iv) 1.1% loss

b. Factorise: [5]

(i) $p^2 - 8p + 16$ ii) $54x^2 - 96y^2$ iii) $5x^2y - 15xy^2$