First Semester Examination

Time : 90 mts | VIII – Mathematics | A | Marks : 40

1. If $\begin{array}{r} A\ 2 \\ \times\ B \\ \hline 360 \end{array}$ values of A and B are . . . . . respectively. 1×7=7

   A) 5 , 6 B) 5 , 7 C) 7 , 5 D) 6 , 5

2. The proper way of representing the actual value of squareroot of 16 is . . . . .

   A) $\sqrt{16} = 8$ B) $\sqrt{16} = \sqrt{4}$ C) $\sqrt{16} = -4$ D) $\sqrt{16} = 4$

3. $2p^2 + 3q + r$ is a . . . . .

   A) Monomial B) Binomial C) Trinomial D) Polynomial

4. $(a + b)(a - b) =$ . . . . .

   A) $a^2 + b^2 + 2ab$ B) $a^2 - b^2$ C) $a^2 + b^2 - 2ab$ D) $x^2 + (a+b)x + ab$

5. The common factor of x^2y^2 and x^3y^3 is . . . . .

   A) x^2y^2 B) x^3y^3 C) x^2y^3 D) x^3y^2

6. When factorised, $5p - 10 =$ . . . . .

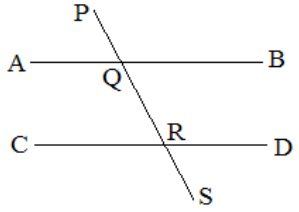
   A) $5p(p-2)$ B) $5(p-2)$ C) $5(p-10)$ D) $p(p-2)$

7. Two angles whose sum is 180° are called . . . . .

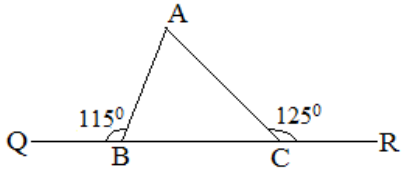
   A) Complementary B) Supplementary C) Adjacent D) Linear pairs

8. What are prime numbers ? Give examples. 2×8=16

9. In the figure if AB ∥ CD and $\angle AQR = 120^0$ find all the remaining angles.



10. Expand using suitable identity : $(4m + 3)^2$
11. What is an axiom ? Give an example.
12. Construct a 3×3 magic square using all odd numbers from 1 to 17.
13. In the figure if $\angle ABQ = 115^0$ and $\angle ACR = 125^0$ find all the angles of ΔABC.



14. Factorise splitting the middle term : $x^2 - 7x + 12$
15. Find the cuberoot of 1728 by factorisation method.
16. The area of a square shaped land is 2025m^2. Find its side. 3×3=9
17. The length and breadth of a rectangle is $(x^2 - 3x + 2)$ and $(x^2 + 2x - 1)$ respectively. Find its perimeter.
18. Write the divisibility rule for 4 with an example.
19. Prove that 'The sum of the angles of a triangle is 180º.' 4×2=8
20. Draw diagrams illustrating each of the following situation:

    i) $\angle ABC = 70^0$ ii) Linear pairs of angles

    iii) Vertically opposite angles iv) 3 points which are not collinear

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