



**RAMAGYA SCHOOL, NOIDA**  
IX/MATHS/2017-18  
OLYMPIAD PRACTICE WORKSHEET

**(Concept based)**

1. An isosceles right triangle has area  $8\text{cm}^2$ . The length of its hypotenuse is \_\_\_\_\_  
(A)  $\sqrt{32}$  cm (B)  $\sqrt{16}$  cm (C)  $\sqrt{48}$  cm (D)  $\sqrt{24}$  cm
2.  $\sqrt{2}$  is a polynomial of degree \_\_\_\_\_  
(A) 0 (B) 2 (C) 1 (D)  $1/2$
3. The equation  $x=7$ , in two variables, can be written as \_\_\_\_\_  
(A)  $0 \cdot x + 1 \cdot y = 7$  (B)  $1 \cdot x + 0 \cdot y = 7$  (C)  $1 \cdot x + 1 \cdot y = 7$  (D)  $0 \cdot x + 0 \cdot y = 7$
4. If the perpendicular distance of a point P from x-axis is 5 units, then the point P has \_\_\_\_\_  
(A) x-coordinate = -5 or 5 (B) y-coordinate = 5 (C) y-coordinate = -5 (D) y-coordinate = 5 or -5
5. The sign of x-coordinate in quadrant II is \_\_\_\_\_  
(A) - (B) + (C) both + and - (D) neither + nor -

**(Application based)**

6. The length of each side of an equilateral triangle having an area  $9\sqrt{3}\text{cm}^2$  is \_\_\_\_\_  
(A) 8 cm (B) 36 cm (C) 4 cm (D) 6 cm
7. If  $X = \frac{\sqrt{3} + \sqrt{2}}{\sqrt{3} - \sqrt{2}}$  and  $Y = \frac{\sqrt{3} - \sqrt{2}}{\sqrt{3} + \sqrt{2}}$ , then find the value of  $x^2 + y^2$   
(A) 98 (B) 40 (C) 32 (D) 20
8. Factorise:  $(a - b)^3 + (b - c)^3 + (c - a)^3$   
(A)  $(a - b) + (b - c) + (c - a)$  (B)  $(a - b)(b - c)(c - a)$   
(C)  $3(a - b)(b - c)(c - a)$  (D)  $3(a - b) + (b - c) + (c - a)$
9. If  $P(x) = x^2 - 2\sqrt{2}x + 1$ , then  $p(2\sqrt{2})$  is equal to  
(A) 0 (B) 1 (C)  $4\sqrt{2}$  (D)  $8\sqrt{2} + 1$
10. Express  $0.6666$  \_\_\_\_\_ in the form of  $p/q$   
(A)  $1/3$  (B)  $2/5$  (C)  $4/3$  (D)  $2/3$

