

**13.** A quadratic equation whose roots are  $(2 + \sqrt{3})$  and  $(2 - \sqrt{3})$  is :

(a)  $x^2 - 4x + 1 = 0$

(b)  $x^2 + 4x + 1 = 0$

(c)  $4x^2 - 3 = 0$

(d)  $x^2 - 1 = 0$

**14.** If  $\tan \theta = \frac{5}{12}$ , then the value of  $\frac{\sin \theta + \cos \theta}{\sin \theta - \cos \theta}$  is :

(a)  $-\frac{17}{7}$

(b)  $\frac{17}{7}$

(c)  $\frac{17}{13}$

(d)  $-\frac{7}{13}$

**15.** If end points of a diameter of a circle are  $(-5, 4)$  and  $(1, 0)$ , then the radius of the circle is :

(a)  $2\sqrt{13}$  units

(b)  $\sqrt{13}$  units

(c)  $4\sqrt{2}$  units

(d)  $2\sqrt{2}$  units

**16.** The number of polynomials having zeroes  $-1$  and  $2$  is :

(a) exactly 2

(b) only 1

(c) at most 2

(d) infinite

**17.** The pair of equations  $ax + 2y = 9$  and  $3x + by = 18$  represent parallel lines, where  $a, b$  are integers, if :

(a)  $a = b$

(b)  $3a = 2b$

(c)  $2a = 3b$

(d)  $ab = 6$

**26.** Find the mean of the following distribution :

Classes	0 – 15	15 – 30	30 – 45	45 – 60	60 – 75	75 – 90
Frequency	17	20	18	21	15	9

**27.** A 2-digit number is seven times the sum of its digits. The number formed by reversing the digits is 18 less than the given number. Find the given number.