Class X Mathematics

Pre First Term Mixed Test

MAXIMUM MARKS : 15

TIME ALLOWED : ONE HOUR

1) The sum of exponents of prime factors in the prime-factorisation of 196 is

a) 3 b) 4 c) 5 d) 2

2) The zeroes of the polynomial $x^2 - 3x - m(m + 3)$ are

a) m, m + 3 b) –m, m + 3 c) m, – m + 3) d) –m, –(m + 3)

3) The value of k for which the system of linear equations x + 2y = 3, 5x + ky + 7 = 0 is inconsistent is

a) –14/3 b) 2/5 c) 5 d) 10

4) The point P on x-axis equidistant from the points A(–1, 0) and B(5, 0) is

a) (2, 0) b) (0, 2) c) (3, 0) d) (2, 2)

5) The co-ordinates of the point which is reflection of point (–3, 5) in x-axis are

a) (3, 5) b) (3, –5) c) (–3, –5) d) (–3, 5)

6) If the point P (6, 2) divides the line segment joining A(6, 5) and B(4, y) in the ratio 3 : 1, then the value of y is

a) 4 b) 3 c) 2 d) 1

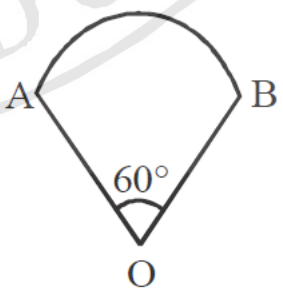
7) The value of $\tan 1^0 \tan 2^0 \tan 3^0 ..... \tan 87^0 \tan 88^0 \tan 89^0$ is

a) 1 b) 2 c) 0 d) $\sqrt{3}$

8) In the given Figure is a sector of circle of radius 10.5 cm. The perimeter of the sector is

a) 32cm b) 37cm

c) 39cm d) 43cm



9) If a number x is chosen at random from the numbers −3, −2, −1, 0, 1, 2, 3, then the probability of $x^2 < 4$ is

a) 1/7 b) 3/5 c) 3/7 d) 4/5

10) How many of the following are **not** polynomials and how many of the polynomials are quadratic

$2x+3, 3x^2+7x+2, 4x^3+3x^2+2, x^3+\sqrt{3x}+7, 5x^3-7x+2,$

$2x^2+3-\frac{5}{x},\ 5x-\frac{1}{2}ax^3+bx^2+cx+d, x+\frac{1}{x}$

a) 3, 3 b) 2,3 c) 3,1 d) 1,3

11) The value of $1+\frac{\cot^2\alpha}{1+\operatorname{cosec}\alpha}$ *is*

a) $\operatorname{cosec}\alpha$ b) $\cot\alpha$ c) $\sec\alpha$ d) None of these

12) If 2x + y = 23 and 4x – y = 19, then the value of (5y – 2x) is

a) 11 b) 21 c) 31 d) 33

13) The area of triangle ABC with A (1, –4) and the mid-points of sides through A being (2, –1) and (0, –1) is

a) 10sq units b) 12 sq units c) 11 sq units d) NOT

14) In the given figure, ΔABC is similar to ΔDEF and their sides of lengths (in cm) are marked along them, then the lengths of sides AB and EF are

a) 9cm, 18cm b) 12cm, 18cm c) 12cm, 24cm d) 9cm, 24cm

15) If the mid-point of the line segment joining the points A(3, 4) and B(k, 6) is P (x, y) and x + y – 10 = 0, find the value of k.

a) 7 b) 6 c) 5 d) 2