

### FA 3 Revision Questions

#### Mathematics

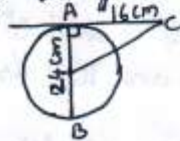
Class: X

#### Section A

- 1) If 3 is a solution of  $3x^2 + (k-1)x + 9 = 0$ , then find the value of  $k$ .
- 2) Find the values of  $k$  for which the quadratic equation  $x^2 - 2kx + 5k = 0$  has equal roots.
- 3) If  $k, 2k-1$  &  $2k+1$  are three consecutive terms of A.P., find the value of  $k$ .
- 4) The 20th term from the end of the A.P.  $3, 8, 13, \dots, 353$  is \_\_\_\_\_.
- 5) If  $\frac{4}{5}, a, 2$  are three consecutive terms of A.P. then find the value of 'a'.
- 6) Show that  $x=24$  is a solution of  $x^2 - 8x - 384 = 0$ .
- 7) How many chords can a circle have?

#### Section B

- 8) Find the nature of the roots of the following quadratic equation. If the real roots exist, find them.  
 $2x^2 - 3x + 5 = 0$
- 9) Write first 4 terms of A.P. if  $a=2, d=8$ .
- 10) Solve for  $x$  by method of completion of squares:  $2x^2 + x - 4 = 0$ .
- 11) Find the sum of first 15 multiples of 8.
- 12) How many three-digits numbers are divisible by '7'?
- 13) In the figure, the length of tangent  $AC = 16\text{cm}$ , if  $AB = 24\text{cm}$ , then find the length of  $OC$ .



### Section C

- 14) Construct a triangle of sides 4cm, 5cm, 6cm and then a triangle similar to it whose sides are  $\frac{2}{3}$  of the corresponding sides of the first triangle.
- 15) Construct a triangle ABC with side BC = 7cm,  $\angle B = 45^\circ$ ,  $\angle A = 105^\circ$ . Then, construct another triangle whose sides are  $\frac{4}{3}$  times corresponding sides of  $\triangle ABC$ .
- 16) If all the sides of a parallelogram touches one circle, show that the parallelogram is a rhombus.
- 17) Find the sum of the first 22 terms of an A.P. in which  $d=7$  and 22<sup>nd</sup> term is 149.
- 18) Find a, b & c such that the following numbers are in A.P.: a, 7, b, 23, c.
- 19) Determine k so that  $k^2+4k+8$ ,  $2k^2+3k+6$ ,  $3k^2+4k+4$  are three consecutive terms of an A.P.

### Section D:

- 20) Draw a circle of radius 5cm. From a point P, 13cm away from its centre, draw two tangents to the circle.
- 21) The first and last term of an AP are 5 and 45 respectively. If the sum of all its terms is 400, find its common difference.
- 22) The sum of first 16 terms of an AP is 112 and sum of its next fourteen terms is 518. Find the AP.
- 23) The sum of 4<sup>th</sup> and 8<sup>th</sup> terms of an AP is 24, & the sum of 6<sup>th</sup> and 10<sup>th</sup> is 44. Find the first four terms of the A.P.
- 24) Two concentric circles are of radii 4cm and 5cm, then find the length of the chord of the larger circle which touches the smaller circle. All the best.