IMPORTANT QUESTIONS (CHAPTER 6 – 12)

1. Draw a line segment AB = 7cm and divide it internally in the ratio 3:2.
2. Draw ΔABC with BC =6cm, AB = 4.5cm and ∠ABC = 30°. Then construct a triangle whose sides are 1½ times the corresponding sides of ΔABC.
3. Draw ΔABC with BC =8cm, ∠ABC = 45° and ∠BAC = 105°. Then construct a triangle whose sides are 2/3 times the corresponding sides of ΔABC.
4. Construct a circle of radius 3.5cm, from a point on the concentric circle of radius 6.5cm draw a tangent to the first circle and measure the length of the tangent drawn. Also find the length of the tangent by actual calculation.
5. Draw a circle of radius 4cm and construct a pair of tangents to the circle which are inclined to each other at 30°.
6. The radii of two circles are 13cm and 6cm respectively. Find the radius of the circle which has circumference equal to the sum of the circumferences of the two circles.
7. The chord of a circle of radius 7cm subtends an angle of 60° at the center.
   Find
   (i) length of arc
   (ii) (ii) Area of sector
   (iii) (iii) area of minor segment.

8. A hemispherical bowl of internal radius 9cm is full of water. The water is to be filled into cylindrical shaped bottles each of diameter 3cm and height 4cm. How many bottles are needed to empty the bowl.
9. The radii of circular ends of a solid frustum of a cone are 33cm and 27cm and its slant height is 10cm. Find the total surface area.
10. Find the mean of the following data:
    a. Class interval 0 – 20 20 – 40 40 – 60 60 – 80 80 – 100
    b. Frequency 5 10 20 12 3
11. Find the mode of the following data:
    a. Class interval 20 – 40 40 – 60 60 – 80 80 – 100 100 – 120
    b. Frequency 5 10 20 12 3

12. Find the median of the following data:
    a. Class interval 20 – 40 40 – 60 60 – 80 80 – 100 100 – 120
    b. Frequency 5 10 20 12 3
13. Find the probability of getting 53 Mondays in a (i) leap year (ii) non leap year
14. Three coins are tossed simultaneously. Find the probability of getting (i) two heads (ii) at least two heads (iii) at most two heads (iv) no head
15. One card is drawn from a pack of 52 cards. Find the probability of getting
    (i) a black card.
    (ii) a face card
    (iii) black or queen
    (iv) either red or queen
    (v) neither a red card nor a king.
    (vi) jack and red card

16. A bag contains 5 black, 7 red and 3 white balls. One ball is drawn at random, find the probability of getting (i) black or white (ii) not black (iii) green
17. Out of 400 bulbs in a box, 15 bulbs are defective. One bulb is taken out at random. Find the probability the bulb is non defective.
18. In a lottery there are 10 prizes and 25 blanks. Find the probability of getting a prize.