

CBSE Class 10th math important questions

- 1) Prove that one of every three consecutive integers is divisible by 3.
- 2) Find the Quadratic polynomial whose sum and product of zeros are $2 + 1$
- 3) Find the sum of $a+b, a-b, a-3b, \dots$ to 22 terms.
- 4) For what value of a is the point $(-2, a)$ on the line with equation $-3x + 3y = 4$?
- 5) Prove that $\sec^2 A + \operatorname{cosec}^2 A$ can never be less than 2
- 6) A boy standing on a horizontal plane finds a bird flying at a distance of 100m from him at an elevation of 30° . A girl standing on the roof of 20 meter high building finds the angle of elevation of the same bird to be 45° . Both the boy and the girl are on opposite sides of the bird. Find the distance of the bird from the girl.
- 7) Determine the ratio in which the line $2x + y - 4 = 0$ divide the line segment joining the points $A(2, -2)$ and $B(3, 7)$. Also find the coordinates of the point of division.
- 8) Find the relation between x and y when the point (x, y) lies on the straight line joining the points $(2, -3)$ and $(1, 4)$
- 9) The base EF of an equilateral triangle DEF lies on the y -axis. The coordinates of F are $(0, -3)$. If the origin is the midpoint of EF find the coordinates of points D and E .
- 10) A circle touches the sides of a quadrilateral $ABCD$ at P, Q, R and S respectively. Show that the angles subtended at the center by a pair of opposite sides are supplementary.
- 11) The radius of the in circle of a triangle is 4cm and the segments into which one side is divided by the point of contact are 6cm and 8cm. Determine the other two sides of the triangle.

- 12)** Find the circumference of a circle whose area is 16 times the area of the circle with diameter 7cm
- 13)** The area enclosed between two concentric circles is 770cm^2 . If the radius of the outer circle is 21cm, find the radius of the inner circle
- 14)** An ice-cream cone has a hemispherical top. If the height of the cone is 10 cm and base radius is 2.5 cm, find the volume of ice cream cone.
- 15)** For what value of i , are the numbers x , $2x + i$ and $3x + 6$ three consecutive terms of an A.P
- 16)** The length of the minute hand of a wall clock is 7 cm. How much area does it sweep in 20 minutes?
- 17)** A box has cards numbered 14 to 99. Cards are mixed thoroughly and a card is drawn from the bag at random. Find the probability that the number on the card, drawn from the box is
- (i) an odd number,
 - (ii) a perfect square number,
 - (iii) a number divisible by 7.
- 18)** Two years ago the man's age was three times the square of his son's age. Three years hence his age will be four times his son's age. Find their present ages.
- 19)** Prove that the ratio of the areas of two similar triangles is equal to the ratio of the squares of their corresponding sides.
- 20)** Find the sum of all the natural numbers less than 100 which are divisible by 6.
- 21)** In a right triangle ABC, $\tan(A) = 3/4$. Find $\sin(A)$ and $\cos(A)$.

22) If the shadow of a building increases by 10 meters when the angle of elevation of the sun rays decreases from 70° to 60° , what is the height of the building?

23) The area of a rectangular field is equal to 300 square meters. Its perimeter is equal to 70 meters. Find the length and width of this rectangle

24) For what value of b will the system given below have no solutions?

$$2x + 6y = -2$$

$$-3x + by = 4$$

25) Find the middle term of the AP 1, 8, 15....505.