Class 10: Important Maths Questions 2026 Exam

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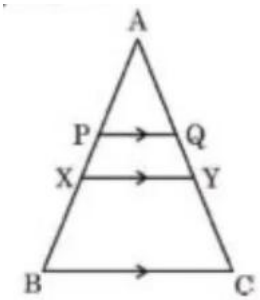
1. Which of the following cannot be the unit digit of 8n where n is a natural number
   a) 4 b) 2 c) 0 d) 6
2. If the zeros of the polynomial $ax^2 + bx + \frac{2a}{b}$ are reciprocal of each other then find b.
3. Find the value of k such that the polynomial $x^2 - (k+6)x + 2(2k+1)$ has the sum of its zeros equal to half of their product.
4. The perimeter of a sector of a circle of radius 8 cm is 25cm. What is the area of the sector?
5. If $x\left(\frac{2\tan 30}{1+\tan^2 30}\right) = y\left(\frac{2\tan 30}{1-\tan^2 30}\right)$, then find $x:y$
6. In the adjoining figure, PQ || XY || BC, AP = 2 cm, PX = 1.5 cm and BX = 4 cm. If QY = 0.75 cm, then find AQ + CY.



7. If the mode of some observations is 10 and sum of mean and median is 25 , then find the mean and median.
8. Solve the following pair of equation algebraically

$$101x + 102y = 304$$
$$102x + 101y = 305$$

9. The number of red balls in a bag is three more than the number of black balls. If the probability of drawing a red ball at random from the given bag is $\frac{12}{23}$, find the total number of balls in the given bag.
10. If the points A(6, 1), B(p, 2), C(9, 4) and D(7, q) are the vertices of a parallelogram ABCD, then find the values of p and q. Hence, check whether ABCD is a rectangle or not.
11. Find the smallest value of p for which the quadratic equation $x^2 - 2(p+1)x + p^2 = 0$ has real roots. Hence, find the roots of the equation so obtained.
12. From one face of a solid cube of side 14 cm , the largest possible cone is carved out. Find the volume and surface area of the remaining solid. Use $\pi = \frac{22}{7}, \sqrt{5} = 2.2$
13. A boy whose eye level is 1.35 m from the ground spots a balloon from his eyes. At an instant, the angle of elevation is 60 degrees. After 12 seconds, the angle of elevation changes to 30 degrees. If the speed of the wind is 3 m/sec, find the height of the balloon from the ground.

Solution to the test

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14. Two dice are rolled together bearing numbers 4,6,7,9,11,12. Find the probability that the product of numbers obtained is an odd number.
15. Prove that the lengths of tangents drawn from an external point to a circle are equal.
16. Prove that abscissa of a point P which is equidistant from points with coordinates A(7,1) and B(3,5) is 2 more than its ordinate.
17. If $1 + \sin^2\theta = 3\sin\theta\cos\theta$, then prove that $\tan\theta = \frac{1}{2}\ or\ 1$

Solution to the test

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