

KNOWLEDGE HORIZON CLASSES

Test Series

- Q1.** $\sqrt{3}$ is
(i) An integer
(ii) A rational number
(iii) An irrational number
(iv) None of these
- Q2.** Which of the following is not a polynomial?
(i) $\sqrt{3}x^2 - 2\sqrt{3}x + 3$
(ii) $\frac{3}{2}x^3 - 5x^2 - \frac{1}{\sqrt{2}}x - 1$
(iii) $x + \frac{1}{x}$
(iv) $5x^2 - 3x + \sqrt{2}$
- Q3.** $\frac{x}{6} + \frac{y}{15} = 4,$
 $\frac{x}{3} - \frac{y}{12} = \frac{19}{4}$
(i) $x = 17, y = 20$
(ii) $x = 18, y = 15$
(iii) $x = 12, y = 21$
(iv) $x = 14, y = 17$
- Q4.** If one root of $3x^2 + 11x + k = 0$ be reciprocal of the other, then
(i) $k = \frac{1}{3}$
(ii) $k = -3$
(iii) $k = \frac{-11}{3}$
(iv) $k = 3$
- Q5.** Find the value(s) of k for which each of the following quadratic equations has real and equal roots:
 $9x^2 - 24x + k = 0$

- (i) $k = 6$ (ii) $k = 12$
 (iii) $k = 10$ (iv) $k = 16$

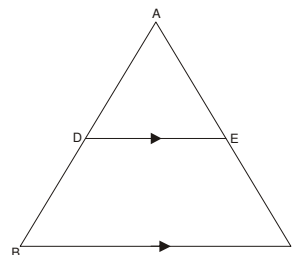
Q6. How many natural numbers between 1 and 1000 are divisible by 5?

- (i) 197 (ii) 198
 (iii) 199 (iv) 200

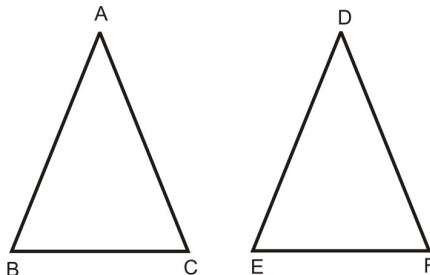
Q7. In the given figure, In $\triangle ABC$, $DE \parallel BC$, so that $AD = 2.4$ cm, $AE = 3.2$ cm and $EC = 4.8$ cm

Then, $AB = ?$

- (i) 3.6 cm (ii) 6 cm
 (iii) 6.4 cm (iv) 1.6 cm



Q8. In the given figure, $\triangle ABC$ and $\triangle DEF$ are similar, $BC = 3$ cm, $EF = 4$ cm and area of the $\triangle ABC = 54$ cm². Determine the area of the $\triangle DEF$.



- (i) 225 sq. cm (ii) 144 sq. cm (iii) 96 sq. cm (iv) 00 sq. cm

Q9. Find the length of altitude AD of an isosceles $\triangle ABC$ in which $AB = AC = 2a$ units and $BC = a$ units.

- (i) $\frac{a\sqrt{10}}{3}$ units (ii) $\frac{a\sqrt{15}}{2}$ units
 (iii) $\frac{a\sqrt{10}}{2}$ units (iv) $\frac{a\sqrt{15}}{3}$ units

Q10. In which quadrant does $(2, -4)$ lie?

- (i) I (ii) II
 (iii) III (iv) IV

Q11. If $\operatorname{cosec} A = \frac{2}{\sqrt{3}}$, and A is acute, then $\tan A = ?$

- (i) $\frac{1}{\sqrt{3}}$ (ii) $\frac{\sqrt{3}}{2}$
 (iii) $\sqrt{3}$ (iv) 2

Q12. If the angle of elevation of a tower from a distance of 100 meters from its foot is 60° , then the height of the tower is

- (i) $100\sqrt{3} m$ (ii) $\frac{100}{\sqrt{3}} m$
 (iii) $50\sqrt{3} m$ (iv) $\frac{200}{\sqrt{3}} m$

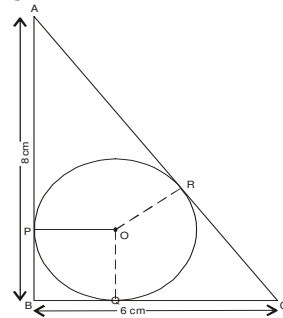
Q13. In a circle of radius 7 cm, tangent PT is drawn from a point P such that $PT = 24$ cm, If O is the centre of the circle, then length of OP is

- (i) 30 cm (ii) 28 cm
 (iii) 25 cm (iv) 31 cm

Q14. In the given figure, ΔABC is right-angled at B such that $BC = 6$ cm, and $AB = 8$ cm. A circle with centre O has been inscribed inside the triangle.

$OP \perp AB, OQ \perp BC$ and $OR \perp AC$. If $OP = OQ = OR = x$ cm, then $x = ?$

- (i) 2 cm
 (ii) 3 cm
 (iii) 2.5 cm
 (iv) 4 cm



Q15. If the circumference and the area of a circle are numerically equal, then diameter of the circle is

- (i) $\frac{\pi}{2}$ (ii) 2π
 (iii) 2 (iv) 4

Q16. Find the total surface area of a Cuboid whose length is 3 cm, breadth is 4 cm and height is 5 cm.

- (i) 94 cm^2
 (ii) 86 cm^2
 (iii) 60 cm^2
 (iv) 49 cm^2

Q17. Find the volume of a cube whose side is 6 cm.

- (i) 216 cm^3
 (ii) 369 cm^3
 (iii) 226 cm^3
 (iv) 256 cm^3

Q18. The diameter of a sphere is 14 cm. Its volume is

- (i) 1428 cm^3 (ii) 1439 cm^3
 (iii) $1437\frac{1}{3} \text{ cm}^3$ (iv) 1440 cm^3

Q19. The mean of the following distribution is 157.

Height in cm	150	152	152	156	200
f	2	2	x	4	1

Then x =

- (i) 1
- (ii) 2
- (iii) 3
- (iv) 4

Q20. When a die is thrown once, the probability of getting an even number is

- (i) $\frac{1}{2}$
- (ii) $\frac{2}{5}$
- (iii) $\frac{5}{6}$
- (iv) $\frac{1}{6}$