H.W

Autumn Holiday Homework.

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1. Let $x = \frac{7}{20 \times 25}$ be a rational no. Then x has decimal expansion, which terminates:

(a) after 2 places of decimal.

(b) after 3 places of decimal. (Ans).

(c) after 4 places of decimal.

(d) after 6 places of decimal

2. The decimal expansion of $\frac{83}{72 \times 175}$ is

(a) terminating (Ans).

(b) non-terminating

(c) non-terming & repeating.

(d) an irrational no.

3. If HCF & LCM of 2 nos. are 48 & 9696 respectively, then the product of the 2 nos. is:

(a) 38924.

(b) 78385.

(c) 28785.

(d) 38784 (Ans).

4. If a & b are positive integers, then (a, b) × LCM (a, b) =

(a) $a \times b$ (Ans).

(b) $a^2 b$

(c) $a + b$.

(d) $a \div b$.

5. If the HCF of 2 nos. is 1, then the 2 nos. are called:

(a) composite

(b) relative prime / co-prime (Ans).

(c) perfect.

(d) irrational nos.

6. If α, β are zeroes of the polynomials $f(x) = x^2 + x + 1$, then $\frac{1}{\alpha} + \frac{1}{\beta}$ is:

(a) 0

(b) 1

(c) -1. (Ans).

(d) 2.

7. A quadratic polynomial whose sums product of zeroes are -3 & 2 is.

(a) $x^2 - 3x + 2$.

(b) $x^2 + 3x + 2$. (Ans)

(c) $x^2 + 2x - 3$.

(d) $x^2 + 2x + 3$

Q8) If α & β are the zeroes of polynomials $px^2 - 2x + 3p$ & $\alpha + \beta = \alpha\beta$, then $p =$

(a) $\frac{3}{2}$ (c) 3

(b) $\frac{2}{3}$ (Ans). (d) 2.

Q9) If one 0 of the quadratic polynomial $x^2 + 3x + k$ is 2, then the value of k is

(a) 12. (c) 15

(b) -10 (Ans) (d) 5.

Q10. If $19x - 17y = 55$ & $17x - 19y = 53$, then the value of $x - y$ is

(a) 1 (c) 3 (Ans).

(b) -3 (d) 5

Q11. If $\frac{2}{x} + \frac{3}{y} = 13$ & $\frac{5}{x} - \frac{4}{y} = -2$, then $x + y$ equals.

(a) $\frac{1}{6}$ (c) $\frac{5}{6}$

(b) $-\frac{1}{6}$ (Ans) (d) $-\frac{5}{6}$

Q12. If the system of equations $2x + 3y = 5$, $4x + ky = 10$ has infinitely many sol. then $k =$

(a) 3 (c) $\frac{5}{8}$

(b) 6 (Ans). (d)

Q13. If the equations $Kx - 5y = 2$, $6x + 2y = 7$ has no sol. then $K =$

(a) -10 (c) -6

(b) -5 (d) -15. (Ans).

Q14. The pair of equations $x + 2y + 5 = 0$ & $-3x - 6y + 1 = 0$ have.

(a) a uniquely sol. (c) exactly 2 sol.

(b) infinitely many sol. (d) no sol. (Ans).

Q15. If a pair of linear equations is consistent, then the lines will be

(a) parallel. (c) intersecting / coincident (Ans).

(b) always coincident. (d) always intersecting

Q16. In a $\triangle ABC$, AD is the bisector of $\angle BAC$. If AB = 8cm, ~~AC = 5cm~~ & BD = 6cm, then DC = 3cm

(a) 11.3cm.
(b) 2.5cm.
(c) 8.5cm.
(d) 4.5cm.
(e) 4cm. (Ans).

Q17. If $\triangle ABC$ is an equilateral triangle such that $AD \perp BC$, then $AD^2 =$.

(a) $\frac{3}{2}DC^2$.
(b) $4DC^2$.
(c) $3CD^2$. (Ans).
(d) $2CD^2$.

Q18. A ladder is placed against a wall such that its foot is at dist. of 2.5m from the wall & its top reaches a window 6cm above the ground. The length of the ladder is.

(a) 9.5m.
(b) 7.5m.
(c) 8.5m.
(d) 6.5m. (Ans).

Q19. A length of the diagonals of a rhombus are 6cm & 8cm. Then the perimeter of the rhombus is

(a) 5cm (Ans).
(b) 10cm.
(c) 15cm
(d) 20cm.

Q20. A vertical stick 3om long casts a shadow 15m long on the ground. At the same time a tower casts a shadow 75m long on the ground. The height of tower is

(a) 150cm (Ans).
(b) 130m.
(c) 125m.
(d) 120m.

Q21. The 4th vertex D of a parallelogram ABCD whose 3 vertices are A(-2, 3) B(6, 7) & C(8, 3) is.

(a) (0, 1)
(b) (0, -1) (Ans)
(c) (-1, 0)
(d) (1, 0)

Q34. If $x = a\cos\theta$ & $y = b\sin\theta$, then $b^2x^2 + a^2y^2 =$

(a) a^2b^2 (Ans).
(b) $a+b$
(c) a^4+b^4
(d) a^2+b^2.

Q35. $(1+\tan^2\theta)(1-\sin\theta)(1+\sin\theta) =$

(a) 0
(b) 1
(c) 1 (Ans).
(d) 2.

Q36. $\sqrt{\frac{\sec\theta-1}{\sec\theta+1}} + \sqrt{\frac{\sec\theta+1}{\sec\theta-1}} =$

(a) $2\sin\theta$.
(b) $2\operatorname{cosec}\theta$. (Ans).
(c) $2\tan\theta$.
(d) $2\sec\theta$.

Q37. If the circumference & the area of the circle are numerically equal, then diameter of circle is

(a) 2
(b) 4 (Ans).
(c) $\frac{\pi}{2}$.
(d) 2π.

Q38. If the length of min hand of a watch is $\sqrt{7}$ cm, then the area swept by it between 9 a.m to 9:30 a.m is

(a) 3cm^2.
(b) 3.5cm^2.
(c) 3.6cm^2.
(d) 4.2cm^2.

Q39. If the circumference of a circle is equal to perimeter of a square, then the ratio of their areas is

(a) 22 : 7
(b) 14 : 11 (Ans).
(c) 7 : 22.
(d) 7 : 11.

Q40. The area of circle that can be inscribed in a square of side 6cm is:

(a) $36\pi\,\text{cm}^2$.
(b) $18\pi\,\text{cm}^2$.
(c) $12\pi\,\text{cm}^2$.
(d) $9\pi\,\text{cm}^2$. (Ans).

Q41. The angle subtended by an arc of length 4π cm at the centre of radii 4cm is

(a) 30°.

(b) 45°. (Ans).

(c) 60°

(d) 90°

Q42. A card is drawn from a pack of 52 playing cards. The probability that it is a queen is

(a) $\frac{1}{10}$.

(b) $\frac{1}{26}$. (Ans).

(c) $\frac{1}{13}$.

(d) $\frac{12}{13}$.

Q43. 2 dice are thrown simultaneously. The probability of getting a prime no. on both dice is

(a) $\frac{1}{2}$.

(b) $\frac{1}{3}$.

(c) $\frac{1}{4}$. (Ans).

(d) $\frac{1}{6}$

Q44. The probability of drawing a green coloured ball from a bag containing 6 red & 5 black balls is

(a) 1

(b) 0 (Ans)

(c) $\frac{1}{11}$.

(d) $\frac{5}{11}$

Q45. The probability of guessing the correct ans. to a question is $\frac{p}{12}$. If the probability of not guessing the correct answer the same ques. is $\frac{3}{4}$, then the value of p is

(a) 1

(b) 2

(c) 3 (Ans).

(d) 4

Q46. A dice is thrown once. The probability of getting a no. less than 3 & greater than 2 is

(a) 1
(b) $\frac{1}{2}$
(c) $\frac{1}{6}$
(d) 0 (Ans).

Q47. A card is drawn at random from an ordinary pack of 52 playing cards. The probability that the card is a black lining king is

(a) $\frac{1}{52}$.
(b) $\frac{1}{26}$ (Ans).
(c) $\frac{1}{13}$.
(d) $\frac{12}{13}$.

Q48. What of the following is not a polynomial?

(a) $3x^3 + x^2 + x + 7$.
(b) $x^2 + px + q$.
(c) $x^2 + \frac{1}{x^2} + 7$. (Ans).
(d) $2x^3 + 3x^2 - 5x - 6$.

Q49. Which of the following is a polynomial.

(a) $x^2 + \frac{1}{x}$.
(b) $2x^2 - 3\sqrt{x} + 1$.
(c) $3x^3 + x^2 + x^2 - 7$. (Ans).
(d) $3x^2 - 3x + 1$.

Q50. The degree of the polynomial $x^3 + x + 7$ is:

(a) 2
(b) 3
(c) 1 (Ans).
(d) not known.

Q51. If α, β be the zeroes of quadractic polynomial $2x^2 + 5x + 1$, then the value of $\alpha + \beta + \alpha\beta$ =

(a) -2 (Ans).
(b) -1
(c) 1
(d) none of these.

Q52. If α, β be the zeroes of quadractic polynomial $2 - 3x - x^2$, then $\alpha + \beta$ =

(a) 2
(b) 3
(c) 1
(d) none of these. (Ans).

Q53. A quadratic polynomial, whose zeroes are -3 & 4 is

(a) $x^2 - x + 12$ (Ans).
(b) $x^2 + x + 12$.
(c) $\frac{x^2}{2} - \frac{x}{2} - 6$.
(d) $2x^2 + 2x - 24$.

Q54. A real no. a is called a 0 of polynomial $f(x)$ if

(a) $f(a) = -1$.
(b) $f(a) = 1$.
(c) $f(a) = 0$. (Ans).
(d) none of these.

Q55. If the sum of zeros of the quadratic polynomial $3x^2 - kx + 6$ is 3, then the value

(a) 9 (Ans)
(b) 3
(c) -3
(d) 6

Q56. The quadratic polynomial, sum & product of whose 0s are Respectively -1 &-

(a) $x^2 + x - 12$ (Ans).
(b) $x^2 - x - 12$.
(c) $x^2 - 12x + 1$
(d) $x^2 - 12x - 1$.

Q57. $\triangle ABC$ & $\triangle PQR$ are similar triangles such that $\angle A = 32°$ & $\angle R = 65°$ then $\angle B$ is

(a) $83°$ (Ans).
(b) $32°$.
(c) $65°$.
(d) $97°$.

Q58. If $\triangle ABC \cong \triangle DEF$, $\angle A = 47°$, $\angle E = 83°$, the value of $\angle C$.

(a) $47°$
(b) $30°$
(c) $40°$
(d) $50°$ (Ans).

Q59. If $\triangle ABC \cong \triangle RQP$, $\angle A = 80°$, $\angle B = 60°$, & the value of $\angle P$ is

(a) $60°$
(b) $50°$
(c) $40°$ (Ans)
(d) $30°$.

Q60. If $\Delta ABC \sim \Delta DEF$, $BC = 4cm$, $EF = 5cm$ & ar $(\Delta ABC) = 80cm^2$, the ar (ΔDEF) is

(a) $100cm^2$.
(b) $125cm^2$. (Ans)
(c) $150cm^2$.
(d) $200cm^2$.

Q61. ABC & DEF are similar triangles such that $\angle A = 47°$ & $\angle E = 83°$, then $\angle C$ is

(a) $60°$
(b) $70°$
(c) $50°$ (Ans).
(d) $80°$

Q62. $\Delta ABC \sim \Delta PQR$. If ar $(ABC) = 2.25m^2$ ar $(PQR) = 6.25m^2$, $PQ = 0.5m$ then l of AB is

(a) 30 cm. (Ans).
(b) 0.5m
(c) 50cm.
(d) 3m.

Q63. $\Delta ABC \sim \Delta PQR$. M is the midpoint of BC & N is the midpoint of QR. If the area of $\Delta ABC = 100sq.cm$. & the area of $\Delta PQR = 144sq.cm$. If $AM = 4cm$ then PN is

(a) 4.8cm. (Ans)
(b) 12cm.
(c) 4cm.
(d) 5.6 cm.

Q64. If a vertical pole of l 6cm casts a shadow 4m long on the ground & at the same time a tower casts a shadow 28 m long, then the height of tower is

(a) 42m. (Ans)
(b) 21 m.
(c) 12m.
(d) 45m.

Q 65. If $\cos\theta + \cos^2\theta = 1$, the value of $(\sin^2\theta + \sin^4\theta)$ is

(a) 0

(b) 1 (Ans).

(c) -1

(d) 2.

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