H.H.W

Autumn Holiday Homework.

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 4 & 9696 respectively, then the product of the 2 nos.

(a) 38924.
(b) 78385.
(c) 28785.
(d) 38784 (Ans).

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

(a) a×b (Ans).
(b) a^2b
(c) a+b.
(d) a ÷ 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 a, β are zeroes of the polynomials $f(x) = x^2 + x + 3$, 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) $\frac{3}{2}$.

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

(c) 3

(d) 2.

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

(a) 12.

(b) -10 (Ans)

(c) 15

(d) 5.

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

(a) 1

(b) -3

(c) 3 (Ans).

(d) 5

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

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

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

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

(d) $-\frac{5}{6}$

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

(a) 3

(b) 6 (Ans).

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

(d)

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

(a) -10

(b) -5

(c) -6

(d) -15 · (Ans)

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

(a) a uniquely sol.

(b) infinitely many sol.

(c) exactly 2 sol.

(d) no sol. (Ans).

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

(a) parallel.

(b) always coincident

(c) intersecting / coincident (Ans).

(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) 3.5cm.
(d) 4.5 cm.
(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) 10 cm.
(c) 15 cm
(d) 20cm.

Q20. A vertical stick 30m 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) 130 m.
(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)

Q29. If triangle ABC is right angled at C, then the value of $\sec(A+B)$ is

(a) 0

(b) 1.

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

(d) not defined. (Ans).

Q30. $\sin 2A = 2\sin A \cos A$ is true when A =

(a) $30°$.

(b) $45°$.

(c) $90°$

(d) any angle.

Q31. If $\sin A = \frac{1}{2}$, then the value of $3\cos A - 4\cos^2 A$ is

(a) 0

(b) 1

(c) -1.

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

Q32. If $a\cot\theta + b\operatorname{cosec}\theta = p$ & $b\cot\theta + a\operatorname{cosec}\theta = q$, then $p^2 - q^2 =$

(a) $a^2 - b^2$.

(b) $b^2 - a^2$.

(c) $a^2 + b^2$.

(d) $b - a$.

Q33. 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) $a^2 + b^2$.

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 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) $x^2 + \frac{1}{2}$.
(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 quadratic 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 quadratic 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 of k is

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

Q56. The quadratic polynomial, sum & product of whose 0s are respectively -1 & -12 is

(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 $\triangle ABC \cong \triangle DEF$, $\angle A = 47°$, $\angle E = 88°$, 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 $\triangle ABC \sim \triangle DEF$, $BC = 4cm$, $EF = 5cm$ & ar $(\triangle ABC) = 80cm^2$, the ar $(\triangle DEF)$ 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. $\triangle ABC \sim \triangle PQR$. 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) 50 cm
(d) 5m.

Q63. $\triangle ABC \sim \triangle PQR$. M is the midpoint of BC & N is the midpoint of QR. If the area of $\triangle ABC = 100 sq.cm$ & the area of $\triangle PQR = 144 sq.cm$. 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.

05. 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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