Holiday Homework

MCQ

1. $\frac{70}{20 \times 25} \Rightarrow \frac{70}{2^2 \times 5 \times 5^2} \Rightarrow$ 3 places

2. Terminating

3. $9696 \times 4 \Rightarrow 38784$

4. $a \times b$

5. Relatively prime or coprime

6. $\frac{1}{\alpha} + \frac{1}{\beta} \Rightarrow \frac{\alpha+\beta}{\alpha\beta} \Rightarrow \frac{-1}{1} \Rightarrow -1$

7. $x^2 + 3x + 2$

8. $\frac{2}{p} = \frac{3}{p} \Rightarrow 2p = 3p \Rightarrow \frac{2}{3} = p$

9. $4 + 6 + k = 0 \Rightarrow k = -10$

10. $2x - 2y = 2 \Rightarrow x - y = 1$

11. $x = \frac{1}{2}$ $y = \frac{1}{3} \Rightarrow \frac{1}{2} + \frac{1}{3} \Rightarrow \frac{5}{6}$

12. $k = 6$

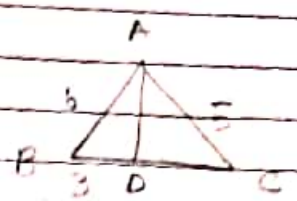
13. $\frac{k}{6} = \frac{-5}{2} \Rightarrow k = \frac{-30}{2} = -15$

14. no solution

15. intersecting or coincident

16. $\Delta PQR \sim \Delta CAB$

17. $\frac{6}{9} = \frac{3}{DC} \Rightarrow DC = 9.5$



18. $AD^2 = 300^2$

19. $AB^2 \Rightarrow 6^2 + 2.5^2 \Rightarrow AB \Rightarrow \sqrt{42.25}$

$AB = 6.5$ cm

20. $\Rightarrow 6^2 + 8^2 \Rightarrow 100 \Rightarrow$ side $= 10$ cm

21. $\frac{30}{15} = \frac{a}{75} \Rightarrow a \Rightarrow 150$ m

22. $\angle A + \angle B + \angle C = 180^\circ \Rightarrow 47 + 83 + \angle C \Rightarrow 180^\circ \Rightarrow \angle C = 50^\circ$

23. Midpoint formula $\Rightarrow$ B $(0, -1)$

24. $\sqrt{4^2 + (3-p)^2} \Rightarrow 5 \Rightarrow (p-3)^2 = 3^2$

$p - 3 = 3$

so $\boxed{p = 6}$ or 0

25. $\frac{7k-2}{k+1} = 1 \Rightarrow 6k = 3 \Rightarrow k = \frac{1}{2}$

Ratio $\Rightarrow 1:2$

26. $\sqrt{(2a + \sqrt{3}a - 2a)^2 + (-2a - 6a)^2} \Rightarrow \sqrt{3a^2 + 4a^2}$

27. $\sqrt{3a^2+a^2} \Rightarrow \sqrt{4a^2} \Rightarrow \pm 2a$

28. $\sqrt{(-a-a)^2+(-b-b)^2} \Rightarrow 2\sqrt{a^2+b^2}$

1

29. $\sec\theta = \sqrt{1-\tan\theta}$

$1-\sqrt{\tan^2\theta+1}+\tan\theta = P$

So $\frac{m^2-1}{2m}$

30. $\frac{1-\cos\theta}{\sin\theta}$

31. $\sec(90) \Rightarrow$ Not defined

32. $A \Rightarrow 30^\circ$

33. $\sin A \Rightarrow \frac{Y}{2}$ $\quad P=1 \quad H=2 \quad B=\sqrt{3}$

$3 \times \frac{\sqrt{3}}{2} - 4 \times \left(\frac{\sqrt{3}}{2}\right)^3$

$\Rightarrow 0$

34. b^2-a^2

35. a^2b^2

36. $(1+\tan^2\theta)(1-\sin^2\theta) \Rightarrow 1$

38. $2\cos\theta$

39. $2\pi r = \pi r^2 \Rightarrow 2r \Rightarrow d = 4$ units

40. radius = $\sqrt{7}$ cm 1mm ⇒ 6° 10mm ⇒ 60°

$\frac{60}{360} \times \frac{22}{7} \times 7 \Rightarrow \frac{11}{3} \Rightarrow 3.6$

≈ 3

41. $\frac{\theta}{360} \times 2\pi r \Rightarrow \frac{45}{360} \times 2 \times \frac{22}{7} \times a \Rightarrow \frac{11a}{2}$

42. 14:11

43. Radius ⇒ 3cm ⇒ πr^2 ⇒ 9π

44. $\frac{\theta}{360} \times \pi \times 4 \times 4 = 4\pi \Rightarrow \frac{2\theta\pi}{45} = 4\pi$

$\Rightarrow 2\theta = 180 \Rightarrow \theta = 90°$

45. P(Queen) ⇒ $\frac{4}{52} \Rightarrow \frac{1}{13}$

46. $P(E) \Rightarrow \frac{9}{36} \Rightarrow \frac{1}{4}$

47. 0

48. $\frac{P}{12} + \frac{3}{4} \Rightarrow 1 \Rightarrow \frac{P+1}{12} \Rightarrow 1 \Rightarrow P = 9$

49. 0

50. $\frac{2}{52} \Rightarrow \frac{1}{26}$.

51. $x^2 + 1/x^2 + 7$

52. $3x^2 - 3x + 1$

53. 3

54. $\frac{-5}{2} + \frac{1}{2} \Rightarrow \frac{-4}{2} \Rightarrow -2$

55. $\frac{3}{2}$

56. $x^2/2 - x/2 - 6$

57. $f(a) = 0$

58. $k/3 \Rightarrow 3 \Rightarrow 9$

59. $x^2 - x - 12 = 0$

60. Product of other 2 zero ⇒ c/a

61. $\angle A + \angle B + \angle C = 180°$
$\angle C \Rightarrow 180 - (47 + 83)$
$\angle C = 50°$

47
83
130

62. $\angle P = 40°$

63. $\frac{80}{ar(DEF)} \Rightarrow \frac{16}{25} \Rightarrow \frac{80 \times 25}{16} \Rightarrow 125$

65. $11 = 50°$

66. $\frac{100}{144} = \frac{16}{PN} \Rightarrow \frac{16 \times 144}{100} \Rightarrow 23$

67. $\frac{6}{4} = \frac{x}{28} \Rightarrow \frac{6 \times 28}{4} \Rightarrow 42cm$

68. $\frac{2.25}{6.25} = \frac{x}{0.5} \Rightarrow 0.9 \Rightarrow 0.3m \Rightarrow 30cm$

69. $x = 3\sec^2\theta - 1 \qquad y = \tan^2\theta - 2$

$x - 3y = 3$

70. $\cos\theta + \cos^2\theta = 1$

$\cos\theta = 1 - \cos^2\theta \Rightarrow \cos\theta = \sin^2\theta$

$\sin^2\theta + \sin^4\theta$

$\cos\theta + \cos^2\theta$

$\Rightarrow 1$