

Answers

Banking

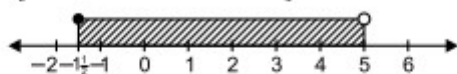
BOARD PAPER QUESTIONS

1. ₹500
2. ₹6811.20
3. ₹1236
4. 7%
5. ₹40,440
6. (i) ₹7500 (ii) 12%
7. (i) ₹6250 (ii) 10%
8. ₹8421
9. ₹200
10. 6%
11. (i) ₹1500 (ii) ₹25,500
12. (i) ₹2000 (ii) ₹80,325

Linear Inequations

BOARD PAPER QUESTIONS

1. $\left\{x : -\frac{3}{2} \leq x < 5, x \in \mathbb{R}\right\}$



2. $\{x : x \geq 6, x \in \mathbb{R}\}$



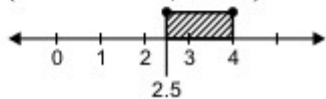
3. $\{x : -3 < x \leq 3, x \in \mathbb{R}\}$

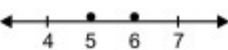


4. $\{x : -3 \leq x < 1.4, x \in \mathbb{R}\}$

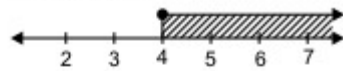


5. $\{x : 2.5 \leq x \leq 4, x \in \mathbb{R}\}$



6. $SS = \{5, 6\}$ 

7. $\{x : x \geq 4, x \in \mathbb{R}\}$



8. $\{x : -1 \leq x < 5, x \in \mathbb{R}\}$



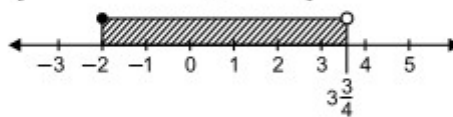
9. $\{x : -3 \leq x < 3, x \in \mathbb{R}\}$



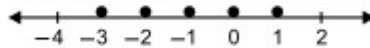
10. $\{y : -2 \leq y < 4, y \in \mathbb{R}\}$



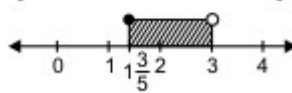
11. $\left\{x : -2 \leq x < 3\frac{3}{4}, x \in \mathbb{R}\right\}$



12. $\{-3, -2, -1, 0, 1\}$



13. $\left\{x : 1\frac{3}{5} \leq x < 3, x \in \mathbb{R}\right\}$



14. $\{0, 1, 2, 3, 4\}$



15. $\left\{x : -\frac{3}{2} \leq x < 2, x \in \mathbb{R}\right\}$



Solving Quadratic Problems

BOARD PAPER QUESTIONS

1. $\frac{600}{x} - \frac{600}{x+20} = 5; 40$

2. (i) $\frac{400}{x}, \frac{400}{x+5}$ (ii) $x = 20, 16$ litres

3. (i) $\frac{216}{x}$ (ii) $\frac{208}{x+16}$ (iii) $x = 36$ (iv) 52 km/h
4. (i) $\frac{\text{₹}600}{x}$ (ii) $x = 24$
5. 8 6. 9.36, 0.64
7. (i) $\frac{400}{x}$ (ii) $\frac{400}{x+40}$; 160
8. (i) 30 (ii) 1200
9. -1.37, 1.70 10. 6
11. 30 km/h 12. 45
13. (i) 5 years (ii) 30 years
14. 16
15. 60 km/h
16. $\frac{4}{3}$ 17. 20
18. 48 km/h 19. -1, 4
20. 9, 1 21. 48
22. 23 23. 3, 5
24. 50 Children 25. 27, 30

Ratio and Proportion

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BOARD PAPER QUESTIONS

2. 24, 40 4. 3
6. 2 7. 3 : 2
9. $x = 7$ 10. 3, 12
11. ₹200, ₹280 13. $\frac{+2}{15}$ or $\pm \frac{1}{2}$ 14. 4 : 3
16. (i) 8 : 7 (ii) $\frac{113}{15}$ 17. $\pm \frac{5}{8}$

Remainder and Factor Theorems

BOARD PAPER QUESTIONS

1. -2
2. $a = 3, b = -4$
3. $(x - 1)(x - 3)^2$
4. -2
5. $(x + 1)(x + 2)(x - 2)$
6. $a = -3, b = -1$
7. $(x - 2)(x + 1)(2x + 7)$
8. $(x - 1)(x - 2)(x - 4)$
9. (i) 5 (ii) $(x - 2)(x + 1)(2x + 1)$
10. $a = 9, b = 6$
11. $(x - 2)(2x - 1)(x + 3)$
12. $k = 13$, yes
13. $(x + 3)(x - 2)(3x - 1)$
14. $a = 5, b = -11$
15. $(x + 13)(x - 2)(x - 1)$
16. 3
17. 13
18. $(x - 2)(x + 1)(2x + 5)$

BOARD PAPER QUESTIONS

1. $\begin{bmatrix} -1 & 1 \\ 1 & -1 \end{bmatrix}$

2. $x = 3, y = 0$

3. $\begin{bmatrix} -17 & -16 \\ -12 & -5 \end{bmatrix}$

4. $\begin{bmatrix} 5 & 0 \\ 0 & 5 \end{bmatrix}$

5. $x = 3, y = -10$

6. $x = 3, y = 2$

7. $x = 36$

8. $x = 2, y = -8$

9. $\begin{bmatrix} 4 & 9 \\ 5 & 4 \end{bmatrix}$

10. $\begin{bmatrix} 4 & 1 \\ 1 & -6 \end{bmatrix}$

11. $p = 8, q = 4$

12. $x = 2, y = 1$

13. $\begin{bmatrix} 0 \\ 0 \end{bmatrix}$

14. $\begin{bmatrix} 13 & 14 \\ 14 & 13 \end{bmatrix}$

15. Yes, no. of columns in A = no. of rows in B.

$AB = \begin{bmatrix} 26 \\ 0 \end{bmatrix}$

16. $\begin{bmatrix} 11 & -3 \\ 16 & 2 \end{bmatrix}$

17. $\begin{bmatrix} 0 & 0 \\ 0 & 0 \end{bmatrix}$

18. $\begin{bmatrix} -2 & 5 \\ 3 & 1 \end{bmatrix}$

19. $x = 1, y = 2$

20. $x = 3, y = -2$

21. $\begin{bmatrix} -23 & 3 \\ 17 & 6 \end{bmatrix}$

22. $x = 4, y = -1$

23. $\begin{bmatrix} 30 & 52 \\ 40 & -14 \end{bmatrix}$

24. -14

25. $\begin{bmatrix} -15 & 40 \\ 1 & 33 \end{bmatrix}$

26. $\begin{bmatrix} 1 & 0 \\ 0 & 1 \end{bmatrix}$

BOARD PAPER QUESTIONS

1. $n = 6, 189$ 2. $a = 14, d = \pm 12$

3. (i) -1 , (ii) 3 , (iii) 550

Reflection

BOARD PAPER QUESTIONS

- (iii) (a) isosceles trapezium (b) x -axis
(c) 45° (d) $(-3, -2)$ (e) reflection in y -axis
- (i) $a = 5$, $b = 2$ (ii) $P''(-5, 2)$ (iii) reflecting in origin
- $a = 2$, $b = 3$, $P''(-2, 3)$, $P'''(6, 3)$
- (ii) $A'(3, -5)$ (iii) $B'(-2, 4)$
(iv) Isosceles trapezium (v) $(3, 0)(-2, 0)$
- (i) $(3, 2)$ (ii) $(-3, -2)$ (iii) $(-3, 2)$ (iv) $(-3, 2)$
- (i) $P'(3, -4)$; $O'(6, 0)$ (ii) 8, 6 (iii) 20 (iv) rhombus
- (a) $(-3, -2)$ (b) Parallelogram, 12 sq. units
(c) (i) $(3, 0)$ (ii) $(-3, 0)$ (iii) $(-3, 0)$
- Isosceles trapezium $A'(-1, -1)$, $B(-5, -1)$, $C(-4, -2)$,
 $D(-2, -2)$; Yes, collinear
- (i) y -axis (ii) $(2, 4)$ (iii) 0 (iv) $(2, 4)$
- (i) $A'(-2, -3)$; $B'(-4, -5)$; $C'(-7, -2)$
(ii) $A''(2, -3)$; $B''(4, -5)$; $C''(7, -2)$
(iii) Isosceles trapezium; 21 sq. units
- (i) $(-2, -4)$ (ii) $(-2, 4)$ (iii) right angled triangle
(iv) 16 sq. units
- (ii) $A'(4, -6)$ (iii) $B'(7, 2)$ (iv) Kite
- (ii) $(-3, -2)$ (iii) arrowhead (iv) $x = 0$
- (iii) $A'(-4, 4)$; $B'(-4, -6)$; $C'(-8, 0)$
(iv) hexagon
- (ii) $A'(-6, -4)$; $B'(0, -4)$ (iii) Parallelogram
(iv) 32 units
- (i) $A'(4, 4)$; $B'(3, 0)$ (ii) hexagon (iii) y -axis

Section and Mid point Formula

BOARD PAPER QUESTIONS

- (i) $(3, 4)$ (ii) 5 units (iii) 4 : 17
- $A(8, 0)$, $B(0, -6)$ 3. $(0, 0)$
- $A(-6, 0)$, $B(0, 6)$ 5. 3 : 5
- (i) 4 : 3 (ii) $\left(0, \frac{23}{7}\right)$ (iii) 24.5 cm^2
- 0, 3 : 5 8. $\left(\frac{5}{3}, 1\right)$
- $a = 2$, $b = 3$
- $(4, -1)$ 11. 1 : 2
- $a = 7$, $b = 5$; 5 units
- (i) 1 : 2 (ii) $(0, 3)$
- $(-7, 17)$ 15. $A(-5, 0)$; $B(0, 10)$
- 1 : 3; $\frac{-9}{4}$

BOARD PAPER QUESTIONS

1. (i) $2x + 3y = 12$ (ii) A(6, 0), B(0, 4); 12 sq. units
2. $2y = 3x + 4$ 3. $3y = 2x + 12$; (-6, 0)
4. $3x + 5y = 20$ 5. $x + y = 5$
6. $x + 2y = 4$
7. (i) $\left(\frac{11}{3}, \frac{11}{3}\right)$ (ii) $3x + 3y = 22$
8. (i) $x + y = 3$ (ii) A(3, 0); B(0, 3) (iii) (1.5, 1.5)
9. $\frac{-5}{2}$ 10. $7y = 2x - 3$
11. (i) A(2, 3), B(-1, 2), C(3, 0) (ii) $x + 2y = 8$
12. $\frac{2}{3}$ 13. $3x + 2y = 2$
14. (i) -2 (ii) $2y = x + 2$ (iii) $p = 0$
15. $p = 6$ 16. $y = 7x - 35$
17. (i) A(4, 0), B(0, -6) (ii) $\frac{3}{2}$ (iii) $2y = 3x - 12$
18. (i) $\frac{-3}{4}$ (ii) $4x - 3y + 4 = 0$
19. (i) (3, -3) (ii) $y = 4x - 12$
20. -9 21. $y + 6x = 23$
22. 4 or -1, $2x + 3y = 7$ or $y = x - 1$
23. (i) D (1, -2) (ii) $y = 2x$
24. (i) (4, 0) (ii) 2 : 1 (iii) $3y = 2x - 8$
25. (i) A (6, 0), B (0, -3) (ii) $2x + y = 7$
26. (i) -11 (ii) (20, -4)

BOARD PAPER QUESTIONS

1. (a) (i) 800 m (ii) 4 m^2
(iii) 1600000 m^3
- (b) (i) $\frac{3}{5}$ (ii) $\frac{3}{5}$ (iii) $\frac{9}{25}$
2. (a) (i) 2 km (ii) 4 km^2 (iii) 5 cm^2
- (b) (i) 6 (ii) $\frac{1}{8}$
3. (i) 7.5 km (ii) 37.5 km^2
4. (i) 15 cm (ii) $10\frac{2}{3} \text{ cm}$
5. (i) 5 km (ii) 12 km^2
6. (i) 3 : 7 (ii) 14
7. 10 cm 8. 6 cm
10. (i) 4 : 25 (ii) 4 : 9
11. (i) 24 m (ii) 0.001 m^3
12. (ii) 10 cm (iii) 25 : 64
13. (ii) 12 cm (iii) 9 : 4
14. (ii) 10 cm (iii) 9 : 4
15. (ii) $1\frac{2}{3} \text{ cm}$, $4\frac{1}{3} \text{ cm}$ (iii) 1 : 8
16. (i) 600 m (ii) 2 m^2 (iii) 175500000 m^3
17. (ii) 12 cm (iii) 24 cm^2

Circles

BOARD PAPER QUESTIONS

1. (i) 76° (ii) 28°
2. $p = 90^\circ - \frac{x}{2}$, $q = \frac{x}{2}$, $r = 90^\circ - \frac{x}{2}$
3. (i) 50° (ii) 100° (iii) 30°
4. 7 cm 5. 96° 6. 8 cm
7. 60° 8. 1 cm 10. (i) 56° (ii) 22°
11. 45° 12. $105^\circ, 13^\circ, 62^\circ$
13. (i) 112° (ii) 68° 14. (i) 55° (ii) 55° (iii) 100°
15. 12 cm 16. (ii) 12 cm
17. (i) 30° (ii) 120° (iii) 60°
18. 2 cm, 4 cm, 6 cm 19. 11.25 cm
20. 3 cm 21. (i) 50° (ii) 40°
22. $80^\circ, 60^\circ$ 23. (ii) 45°
24. (i) 12 cm (ii) 8 cm
26. (i) 32° (ii) 64° (iii) 58°

Cylinder ,Cone and Sphere (Surface Area and Volume)

BOARD PAPER QUESTIONS

1. (i) 175 cm^3 (ii) 50 cm^3
2. 136 cm^3
3. (i) 231 m^2 (ii) 359.33 m^3
4. (i) 10 cm (ii) 80
5. 14 cm 6. 440
7. (i) 36 cm (ii) $\sqrt{1872}$ cm
8. 126 9. 246.4 cm^3 10. 64
11. (i) 4 cm (ii) 94.2 cm^3
12. 400 13. 270
14. (i) 14 cm (ii) 128 15. 6 cm 16. 72
17. 24 m, 5550 m^2

Trigonometrical Identities

BOARD PAPER QUESTIONS

1. $\frac{17}{19}$
4. (a) $\frac{25}{16}$ (b) $\frac{7}{6}$
5. 5

Heights and Distance

BOARD PAPER QUESTIONS

1. (i) 6.4 cm (ii) 3.5 cm
2. (i) 80 m (ii) 34°
3. 127 m 4. (i) 20 m (ii) 28°
5. 110 m 6. 12.5 m
7. (i) 25 m (ii) 43.3 m
8. 91.4 m 9. 253 m
10. 80 m 11. 11.55 m
12. 228 m 13. 52 m
14. 43 m 15. 394 m
16. 123 m, 53.4 m 17. 1098 m

Measures of Central Tendency (Mean ,Median,Quartiels and Mode)

BOARD PAPER QUESTIONS

1. (i) ₹85 (ii) ₹84.80 2. 23.33
3. (i) 62 (ii) 49, 74 4. 257
5. (i) ₹35 (ii) ₹47, ₹23
6. 145 7. 8
8. (iii) ₹8100 9. 3.9, 3.5, 3
10. (i) 13 (ii) 13.5 (iii) 15
11. (i) 69 (ii) 55–60 (iii) 60 (iv) 37
12. (i) 43 (ii) 30 (iii) 10 (iv) 52
13. 23 14. 143
15. 16 16. 13
17. (i) 57 (ii) 41 (iii) 20 (iv) 36
18. 16 19. 20
21. (i) ₹35 (ii) ₹48 (iii) ₹23 (iv) 28.8%
22. (i) 43.5 (ii) 26 (iii) 10
23. 24.024 24. 96 g
25. (i) 36 (ii) 8 26. (i) 57 (ii) 72 (iii) 73 (iv) 92
27. 72.5 28. 9, 10, 10
29. 62.25 30. 4
31. (i) ₹9350 (ii) 93 (iii) 15 (iv) ₹10,250
32. (i) 57 (ii) 46 (iii) 13
33. 82.5 34. (i) 69 (ii) 55–60
35. $a = 1, b = 4$ 36. 14, 13
37. (i) 157.5 cm (ii) 12.75 cm (iii) 15

38. (i) 43 (ii) 10 (iii) 52
39. 13.8 40. 49.6
41. 20, 25 42. 17
43. 3, 3, 3 44. 36
45. (i) 93 kg, 72 kg (ii) 11 46. 115
47. (ii) 27.8 (iii) 20-30 48. $a = 10$

Probability

BOARD PAPER QUESTIONS

1. (i) $\frac{1}{2}$ (ii) $\frac{2}{3}$
2. (i) $\frac{2}{5}$ (ii) $\frac{3}{10}$ (iii) $\frac{1}{5}$
3. 12
4. (i) $\frac{9}{20}$ (ii) $\frac{11}{20}$ (iii) $\frac{3}{10}$
5. (i) $\frac{1}{10}$ (ii) $\frac{2}{15}$
6. (i) $\frac{1}{4}$ (ii) $\frac{3}{4}$ (iii) $\frac{5}{8}$
7. (i) $\frac{1}{10}$ (ii) $\frac{1}{2}$ (iii) $\frac{3}{10}$ (iv) 0
8. (i) $\frac{13}{25}$ (ii) $\frac{4}{25}$ (iii) $\frac{3}{5}$