

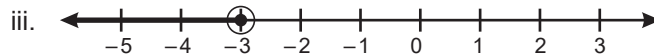
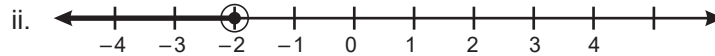
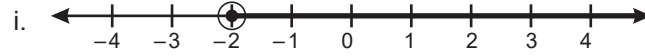
Worksheet

- Choose the correct answer.
 - The solution of $\frac{x-3}{x-4} = \frac{x+1}{x-1}$ is
 - 7
 - 1
 - 7
 - 1
 - The value of x for the equation $3 + \frac{x}{4} = 7$ is
 - 25
 - 16
 - 16
 - 8
 - The solution of equation $\frac{3}{5+x} = \frac{2}{x}$ is
 - 10
 - 10
 - 2
 - 2
 - Two-third of a number exceeds its one-fourth by 5. The number is
 - 17
 - 20
 - 12
 - 12
 - The ratio of the ages of Amit and Rahul is 3 : 4. The sum of their ages is 21 years, the age of Amit is
 - 9
 - 12
 - 7
 - 21
- Fill in the blanks.
 - The solution of the equation $5x - 4 = 3x + 8$ is _____.
 - The value of x for the equation $\frac{5x}{8} - 3x = 152$ is _____.
 - The solution of the equation $\frac{100 - 4m}{3} = \frac{5m + 6}{4} + 6$ is _____.
 - The solution of the equation $3(t - 1) = 5(t + 1) + 8$ is _____.
 - The solution of the equation $\frac{2y + 5}{y - 1} = \frac{2y - 5}{y + 1}$ is _____.
- Solve the following.
 - $3(x - 4) = 39$
 - $2(3x + 6) - 2 = 8$
 - $2(x - 1) + x = 5(2x + 3) - 2(x + 1)$
 - $\frac{5}{4}x - \frac{1}{2} = x + \frac{3}{2}$
 - $\frac{2x}{3} - x = 2(x - 2) - 3$
 - $\frac{6}{x} - \frac{15}{x} = 9$
 - $\frac{x}{5} + \frac{3x - 2}{2} - \frac{6x - 5}{4} = 0$
- The age of Sanya's mother is 25 years more than her age. After 6 years, her mother's age will be 15 years less than six times Sanya's age. Find the age of Sanya and her mother.
- A postman has to deliver 450 letters. The number of letters delivered in one street is twice the number delivered in other. If he is left with 120 letters, then find the number of letters delivered in the first street.

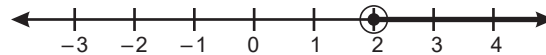
6. Choose the correct option.
- a. Which value of x lies in the solution set of the inequation $-2x - 3 < 9$, where $x \in \mathbf{Z}$?

i. -4 ii. -8 iii. -7 iv. -10

- b. Which of the following graphs represents the solution of the inequation $y \leq -3$?



- c. The solution of which inequation is graphed on the number line?



i. $x < 2$ ii. $x \geq 2$ iii. $x \geq -2$ iv. $x \leq 2$

- d. Solve the inequation $3x < -6$.

i. $x < 2$ ii. $x > 2$ iii. $x < -2$ iv. $x > -2$

7. Find the solution set for the following inequation.

a. $4(3 - x) > 7(x + 2)$, $x \in \mathbf{Z}$

b. $3x + 5 \leq 2x - 5$, where $x \in \mathbf{N}$ and is a multiple of 3

8. Solve $3x - 15 < 6$ and choose the solution set from $\{1, 2, 3, 4, 5, 6, 7, 8, 9, 10\}$.

9. Solve the inequation $2n + 12 > 8$ for the system of integers.

10. If the replacement set is $\{-4, -3, -2, -1, 0, 1, 2, 3\}$, then find the solution set for following inequations.

a. $4x + 24 < 20$

b. $7y - 21 > 0$

c. $4z - 26 \geq -22$

11. Find the solution set for the following inequation.

a. $9x - 3 < 6$, where $x \in \mathbf{W}$

b. $-\frac{x}{3} > -10$, where x is a positive integer divisible by 6

12. Solve the inequation $5y - 4 < y - 3$, $y \in \mathbf{W}$.

13. Find the solution set for the inequation $z - 18 \leq 22$, where z is a positive integer divisible by 2 and 5 both.

14. Solve $4m - 13 \leq -5m + 14$ and graph the solution set on a number line in the system of

a. real number

b. integers

c. positive integer

15. Solve the following inequation and represent their solutions on a number line.

a. $1 < 3 - x \leq 4, x \in \mathbf{Z}$

b. $30 < 10(x + 8) < 130, x \in \mathbf{Z}$

Answers to Worksheet

- | | | | | |
|-----------------------------|-----------------------|-----------|-----------------------|------|
| 1. a. i | b. ii | c. ii | d. iii | e. i |
| 2. a. 6 | b. -64 | c. 10 | d. -8 | e. 0 |
| 3. a. 17 | b. $-\frac{1}{3}$ | c. -3 | d. 8 | e. 3 |
| f. -1 | g. $-\frac{5}{4}$ | | | |
| 4. 2 years, 27 years | | 5. 110 | | |
| 6. a. i | b. iii | c. ii | d. iii | |
| 7. a. {, -3, -2, -1} | b. ϕ | | 8. {1, 2, 3, 4, 5, 6} | |
| 9. {-1, 0, 1, 2, 3,,} | 10. a. {-2, -3, -4} | b. ϕ | c. {1, 2, 3} | |
| 11. a. {0} | b. {0, 6, 12, 18, 24} | 12. {0} | | |
| 13. {10, 20, 30, 40} | | | | |