

SUPER 12s



SUPER 12s CAN BE USED AS AN INDIVIDUALISED MASTERY LEARNING PROGRAM.

2 ALGEBRA
2.11 SOLVING INEQUALITIES
2.11 LEVEL 3

NAME: _____

Skill description: Solving inequalities by adding and subtracting integers and graphing the solution on a number line.

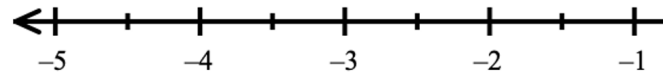
Essential Revision

1. Solve for the unknown.

$$\blacksquare + 3 = 9$$

2. Graph the inequality on the number line.

$$x \geq -3$$



3. Write the inequality for the following.

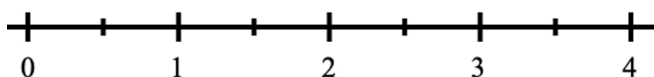


4. Solve for the unknown.

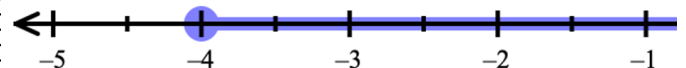
$$\blacksquare + 4 = 70$$

5. Graph the inequality on the number line.

$$x \leq 2$$



6. Write the inequality for the following.

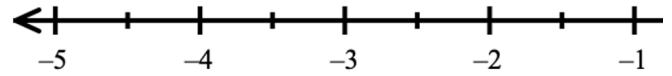


7. Solve for the unknown.

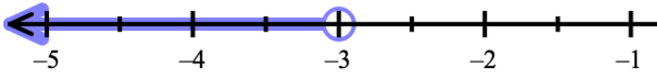
$$\blacksquare + 1 = 22$$

8. Graph the inequality on the number line.

$$x > -3$$



9. Write the inequality for the following.

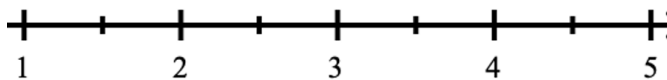


10. Solve for the unknown.

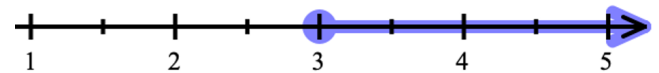
$$\blacksquare + 5 = 16$$

11. Graph the inequality on the number line.

$$x \geq 3$$



12. Write the inequality for the following.



Solutions can be found at the end of the booklet.

score
12

STRATEGIES TO SOLVE THE PROBLEMS

Solving inequalities and solving equations have many similarities.

Example 1

Solve for the unknown and graph the solution on the number line.

$$x + 4 > 3$$

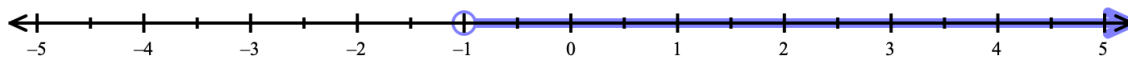
Step 1

To isolate the variable x subtract 4 from both sides of the inequality. Note that the inequality sign remains the same.

$$\begin{array}{r} \downarrow \quad \downarrow \quad \downarrow \\ x + 4 > 3 \\ - 4 = -4 \\ \hline x > -1 \end{array}$$

Step 2

Graph the solution on a number line.



Example 2

Solve for the unknown and graph the solution on the number line.

$$x - 6 \leq -5$$

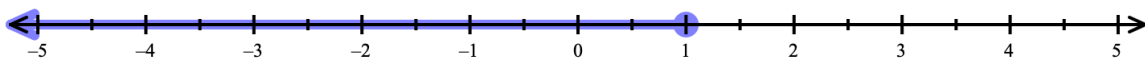
Step 1

To isolate the variable x add 6 to both sides of the inequality. Note that the inequality sign remains the same.

$$\begin{array}{r} \downarrow \quad \downarrow \quad \downarrow \\ x - 6 \leq -5 \\ + 6 = + 6 \\ \hline x \leq 1 \end{array}$$

Step 2

Graph the solution on a number line.



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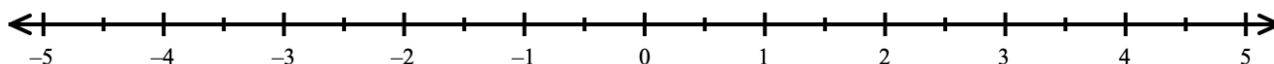


QUESTIONS

Solve and graph the following inequalities on the number line.

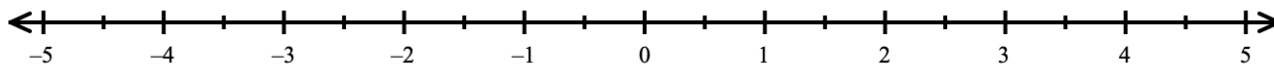
1.

$$x + 3 \geq 1$$



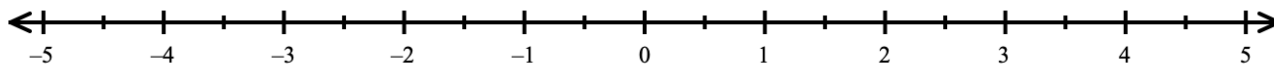
2.

$$x - 1 < 3$$



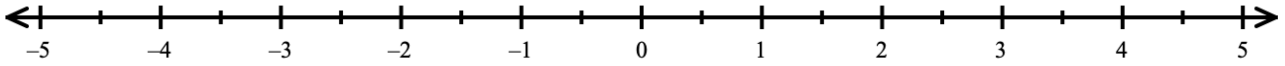
3.

$$x - 6 > -3$$



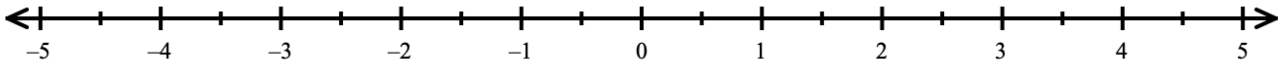
4.

$$x - 4 \leq -1$$



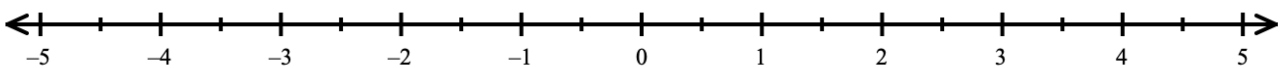
5.

$$x - 1 > 2$$



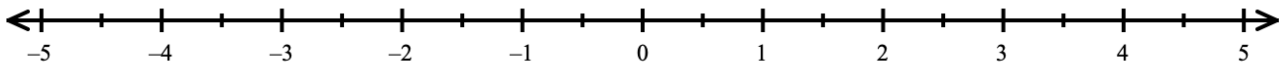
6.

$$x - 8 < -4$$



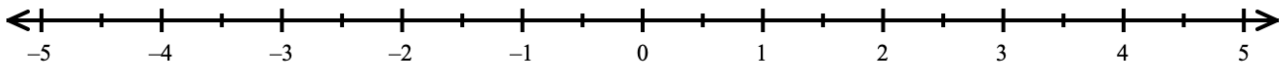
7.

$$x - 2 \geq -5$$



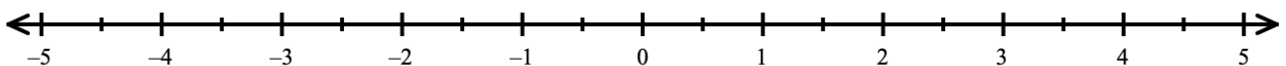
8.

$$x + 4 \leq 1$$



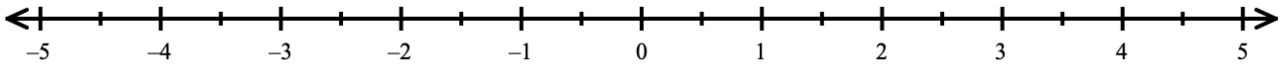
9.

$$x - 7 > -3$$



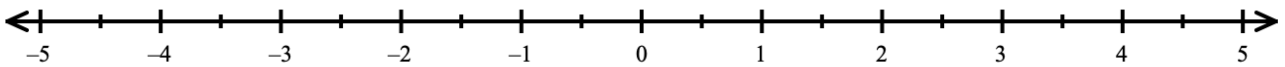
10.

$$x + 2 \geq 4$$



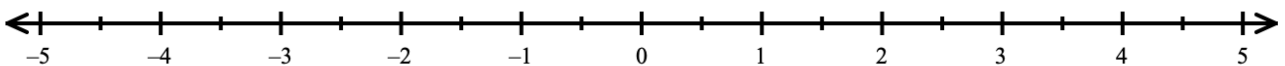
11.

$$x + 5 \geq 2$$



12.

$$x + 1 \leq -2$$



SOLUTIONS CAN BE FOUND AT
THE END OF THE BOOKLET.

score
12

MASTERY TEST

Teacher's signature

I'VE COMPLETED

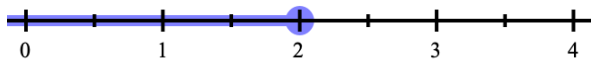
LEVELS THIS YEAR



Solutions to Essential Revision

1. $\blacksquare = 6$

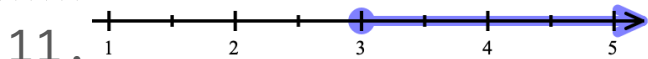
3. $x > -2$



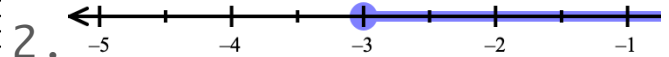
5.

7. $\blacksquare = 21$

9. $x < -3$

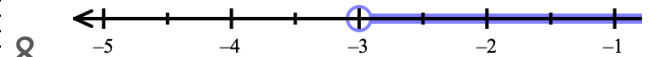


11.



4. $\blacksquare = 66$

6. $x \geq -4$



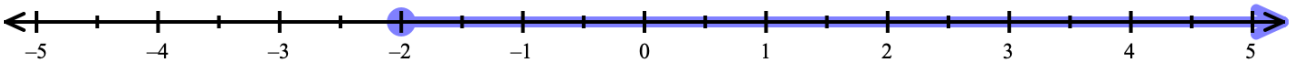
8.

10. $\blacksquare = 11$

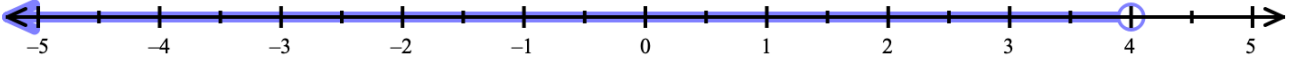
12. $x \geq 3$

Solutions to Questions

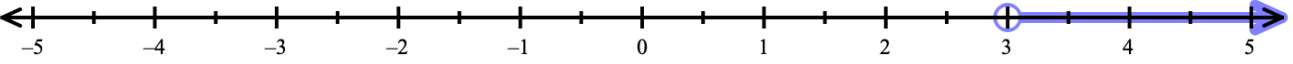
1. $x \geq -2$



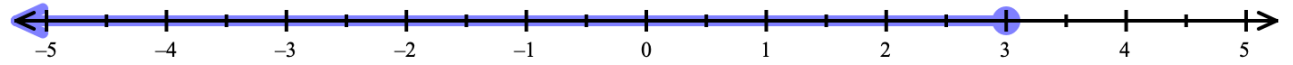
2. $x < 4$



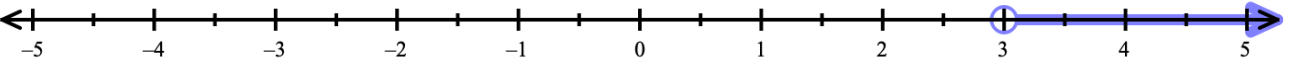
3. $x > 3$



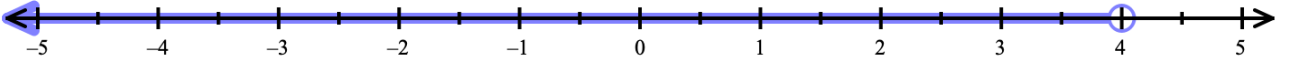
4. $x \leq 3$



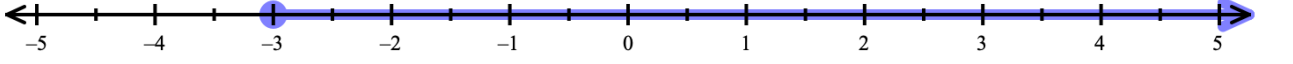
5. $x > 3$



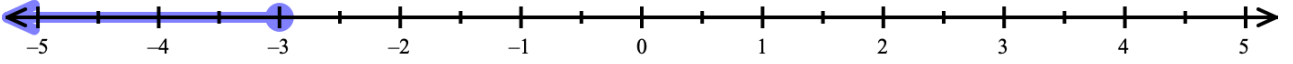
6. $x < 4$



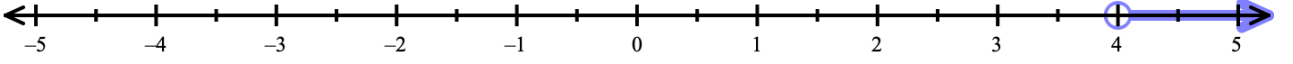
7. $x \geq -3$



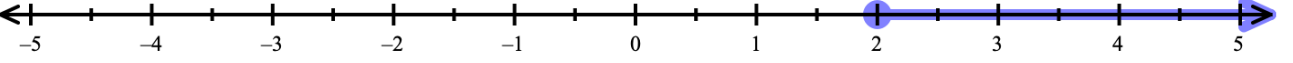
8. $x \leq -3$



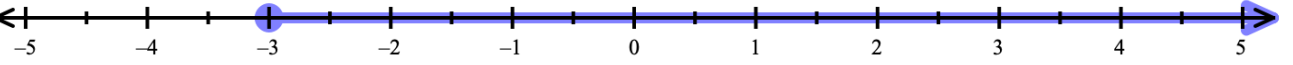
9. $x > 4$



10. $x \geq 2$



11. $x \geq -3$



12. $x \leq -3$

