

3.2 Practice B

Solve the inequality. Graph the solution.

1. $-12 \leq y - 17$

2. $w - 1.8 < 2.5$

3. $v + \frac{1}{3} > 8$

4. $\frac{2}{5} < \frac{4}{5} + k$

5. $q + \frac{3}{4} \geq -\frac{1}{4}$

6. $-\frac{3}{2} + r < \frac{1}{2}$

7. $7.4 > c + 3.9$

8. $p - 10.2 > 3.5$

9. You and two friends are diving for lobster. The maximum number of lobsters you may have on your boat is 18. You currently have 7 lobsters.

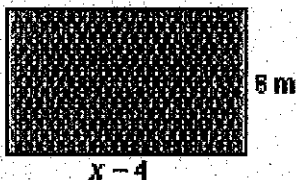
a. Write and solve an inequality that represents the additional lobsters that you may catch.

b. Another friend comes on your boat and he has 3 lobsters. You may now have 24 lobsters on your boat. Write and solve an inequality that represents the additional lobsters that you may catch.

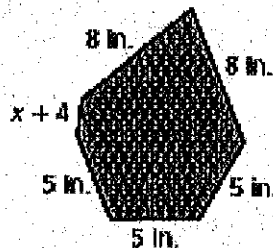
c. How many lobsters is each person allowed to catch?

Write and solve an inequality that represents the value of x .

10. The length is greater than the width.



11. The perimeter is less than or equal to 50 inches.



12. The solution of $w - c > -3.4$ is $w > -1.4$. What is the value of c ?

13. The *triangle inequality theorem* states that the sum of the lengths of any two sides of a triangle is greater than the length of the third side. A triangle has side lengths of 6 inches and 17 inches. What are the possible values for the length of the third side? Explain how you found your answer.

3.3 Practice B

Solve the inequality. Graph the solution.

1. $3y \leq \frac{3}{4}$

2. $-3.2 < \frac{p}{10}$

3. $1.6g \geq 0.48$

4. $2.5k < -100$

5. $\frac{s}{3.1} \geq 4.5$

6. $-\frac{4}{5} < 2x$

Write the word sentence as an inequality. Then solve the inequality.

7. A number divided by 5 is at least 4.
8. The product of 2 and a number is at most -6 .
9. The solution of $cx \geq -4$ is $x \geq -8$. What is the value of c ?

Solve the inequality. Graph the solution.

10. $-6t < 24$

11. $-\frac{2}{5} \leq \frac{u}{-1}$

12. $\frac{q}{-0.4} \leq 1.9$

13. $-\frac{d}{2} > \frac{3}{8}$

14. $-1.2 \leq -0.8r$

15. $\frac{j}{-5.2} \leq -1.5$

16. The height of a room is 10 feet. You are building shelving from the floor to the ceiling.
 - a. Each shelf requires 8 inches. Write and solve an inequality that represents the number of shelves that can be made.
 - b. You forgot to include the thickness of each shelf in your measurements. The amount of space needed for each shelf is actually 10 inches. Write and solve an inequality that represents the number of shelves that can be made.

Describe all numbers that satisfy *both* inequalities. Include a graph with your description.

17. $3x < 12$ and $-3x < -3$

18. $\frac{y}{5} \leq -2$ and $-\frac{y}{4} \geq 1$