5-7 Additional Practice

1. Use the inequality $12 \geq 6(12x + 2)$.

a. Apply the Distributive Property to the right side.

$12 \geq \boxed{} + \boxed{}$
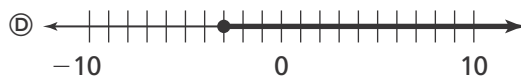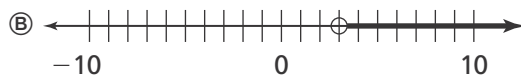
b. Solve the inequality.

$x \leq \boxed{}$

2. Use the inequality $24 \geq 58 + 5(x - 3.8)$.

a. Solve the inequality for x.

b. Which graph shows the solution set of the inequality?

Ⓐ
```
←++++++++++++++⊕++++++++→
  -10           0           10
```

Ⓑ
```
←++++++++++++++⊕++++++→
  -10           0           10
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Ⓒ
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←++++++●++++++++++++++++→
  -10           0           10
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Ⓓ
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←+++++++●+++++++++++++++→
  -10           0           10
```

3. Gina shows the steps she took to find the solution of the inequality below.

$19 - 2(1 - x) < 13$
$19 - 2 + 2x < 13$
$\qquad 2x < -4$
$\qquad x > -2$

a. Should Gina have reversed the inequality symbol? Explain.

b. Write the correct solution for the inequality.

4. A rectangle's length, x, is 2 meters greater than its width. If the perimeter of the rectangle is greater than 112 meters, what is the rectangle's possible length, x, in meters?
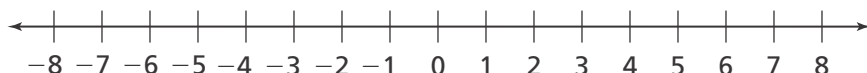
5. Higher Order Thinking Solve each of the inequalities below for z. Which has -5 as a solution?

$$4(1.1z + 2.75) > -6.6 \qquad\qquad 2(2.1z + 4.5) \le 21.6$$

6. Use Structure Solve the inequality. Then graph the solutions on the number line. ©MP.7

$$-34 < -2(4x-1)$$

$$\begin{array}{ccccccccccccccccc} & & & & & & & & & & & & & & & & \\ -8 & -7 & -6 & -5 & -4 & -3 & -2 & -1 & 0 & 1 & 2 & 3 & 4 & 5 & 6 & 7 & 8 \end{array}$$

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7. Solve the inequality below. Explain how you found your answer.

$$9(n + 2) - 5n \ge 34$$