Name _____

1. Solve each equation. Then write the equation in the appropriate box below. **2 points**

$8x = 56$ $x + 5\frac{3}{4} = 8\frac{3}{4}$ $\frac{x}{2} = 3.5$

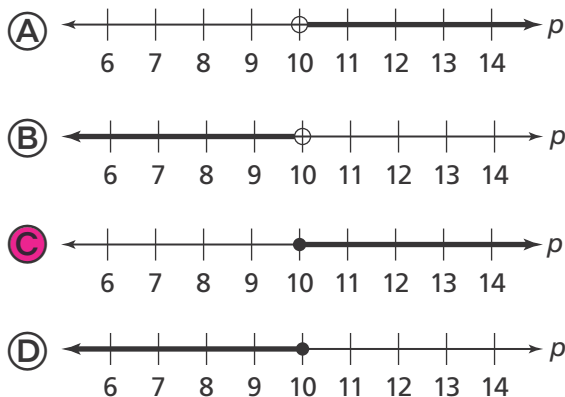$2\frac{1}{4} + x = 9\frac{1}{8}$ $x - 2.56 = 0.44$

Equations with solution $x = 3$
$x + 5\frac{3}{4} = 8\frac{3}{4};\ x - 2.56 = 0.44$
Equations with solution $x = 7$
$8x = 56;\ \frac{x}{2} = 3.5$
Neither
$2\frac{1}{4} + x = 9\frac{1}{8}$

2. Ed's birthday is less than 16 days away. Ann writes the inequality $d \leq 16$, where d equals the number of days, to represent this. Is Ann correct? Explain. **2 points**

No; Sample answer: Ann used $\leq$, which indicates that 16 is a possible number of days until Ed's birthday.

3. Which graph represents the solutions of the inequality $p \geq 10$? **1 point**

Ⓐ ← | 6 | 7 | 8 | 9 | ○10 | 11 | 12 | 13 | 14 → p

Ⓑ ← | 6 | 7 | 8 | 9 | ○10 | 11 | 12 | 13 | 14 → p

Ⓒ ← | 6 | 7 | 8 | 9 | ●10 | 11 | 12 | 13 | 14 → p

Ⓓ ← | 6 | 7 | 8 | 9 | ●10 | 11 | 12 | 13 | 14 → p

4. Choose all the equations that are true if $x = 9$. **1 point**

■ $32.54 - 23.54 = x$

☐ $x \div 27 = 4$

■ $\frac{3}{8}x = 3\frac{3}{8}$

☐ $8.7 + x = 17$

■ $5x = 45$

5. Noah wrote that $6 + 6 = 12$. Then he wrote that $6 + 6 - n = 12 - n$. Are his equations balanced? Explain. **1 point**

Yes; Sample answer: Noah subtracted the same variable from each side, so the equations are balanced.

6. Mr. Daniels is organizing a class trip on a budget of $900. The bus rental costs $600. Mr. Daniels will also buy tickets that cost $9.50 per student. **1 point** Write an inequality to represent the number of students, y, that Mr. Daniels can bring on the trip.

$9.5y \leq 300$

7. The manager of a water park keeps track of the amount of money collected, *m*, and the number of tickets sold, *t*, each day. Which best describes the variables *m* and *t*? **1 point**

Ⓐ The variable *m* is the independent variable because it depends on the number of tickets sold, *t*.

Ⓑ The variable *t* is the dependent variable because it depends on the amount of money collected, *m*, each day.

Ⓒ The variable *t* is the independent variable because it affects the amount of money collected, *m*, each day.

Ⓓ The variable *m* is independent of variable *t*, and variable *t* is independent of variable *m*.

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8. April pays a dog-walking service $30 each week to walk her dog. Complete the table to show how many dollars, *d*, April spends on dog-walking in *w* weeks. **2 points**
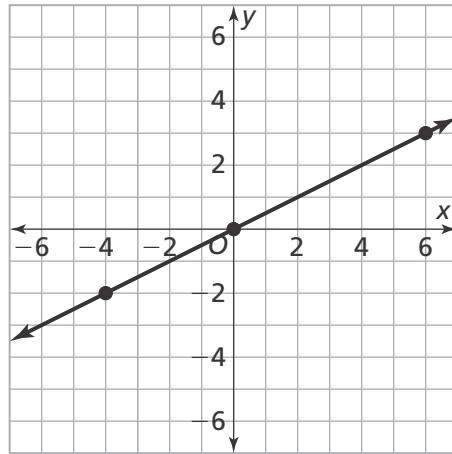
w	1	2	**3**	**4**	5
d	30	**60**	90	120	**150**

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9. Which equation can be used to describe the pattern in the table? **1 point**

a	5	6	7	8	9
b	0	1	2	3	4

Ⓐ $b + a = 5$ **Ⓒ** $b = a - 5$

Ⓑ $b = a + 5$ Ⓓ $a = b - 5$

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10. Part A

Which of the following equations was used to graph the line shown? **3 points**

Ⓐ $y = 2x$

Ⓑ $y = x \div 2$

Ⓒ $y = x + 2$

Ⓓ $y = x - 2$

Part B

Write two ordered pairs for points that are on the graph of the line.

Sample answer: (0, 0) and (4, 2)

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11. What is the value of *t* in the following equation? **1 point**

$$t + \frac{1}{4} = 2\frac{7}{12}$$

$t = 2\frac{1}{3}$