

Student: _____
Date: _____

Instructor: Deb Wertz
Course: MAP102 MASTER

Assignment: Homework #18

1. Solve the absolute value equation.

$$|x| = 16$$

Select the correct choice below and, if necessary, fill in the answer box to complete your choice.

- A. The solution set is {_____}.
(Type an integer or a simplified fraction. Use a comma to separate answers as needed.)
- B. The solution set is \emptyset .

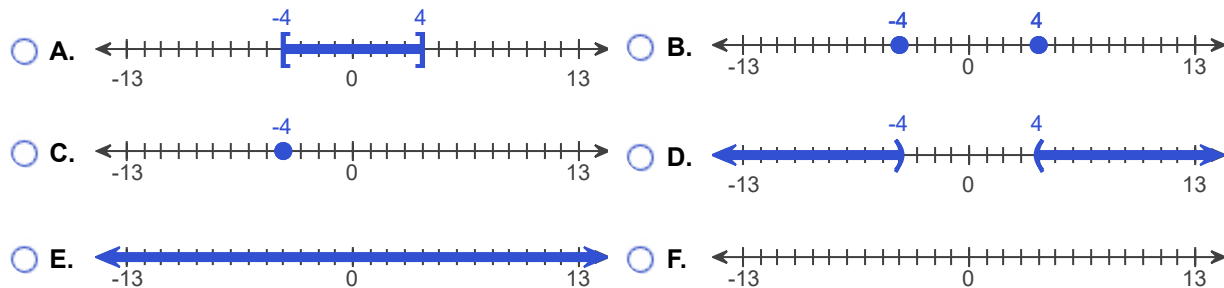
2. Solve the following inequality. Then graph the solution set.

$$|x| \leq 4$$

Select the correct choices below, and, if necessary, fill in the answer box to complete your choice.

- A. The solution is an interval. The solution is _____.
(Simplify your answer. Type your answer in interval notation. Use integers or fractions for any numbers in the expression.)
- B. The solution set is one or two points. The solution set is {_____}.
(Type an integer or a fraction. Use a comma to separate answers as needed.)
- C. The solution set is \emptyset .

Choose the correct graph below.



3. Solve the absolute value equation.

$$|2x - 11| = 17$$

Select the correct choice below and, if necessary, fill in the answer box to complete your choice.

- A. The solution set is {_____}.
(Type an integer or a simplified fraction. Use a comma to separate answers as needed.)
- B. The solution set is \emptyset .

4. Solve the absolute value equation.

$$\left| \frac{x}{4} - 3 \right| = 1$$

Select the correct choice below and, if necessary, fill in the answer box to complete your choice.

- A. The solution set is $\{ \quad \}$.
(Type an integer or a simplified fraction. Use a comma to separate answers as needed.)
- B. The solution set is \emptyset .
-

5. Solve the absolute value equation.

$$|7n + 2| + 15 = 5$$

Select the correct choice below and, if necessary, fill in the answer box to complete your choice.

- A. The solution set is $\{ \quad \}$.
(Type an integer or a simplified fraction. Use a comma to separate answers as needed.)
- B. The solution set is \emptyset .
-

6. Solve the absolute value equation.

$$\left| \frac{2x - 5}{3} \right| = 9$$

Select the correct choice below and, if necessary, fill in the answer box to complete your choice.

- A. The solution set is $\{ \quad \}$.
(Type an integer or a simplified fraction. Use a comma to separate answers as needed.)
- B. The solution set is \emptyset .
-

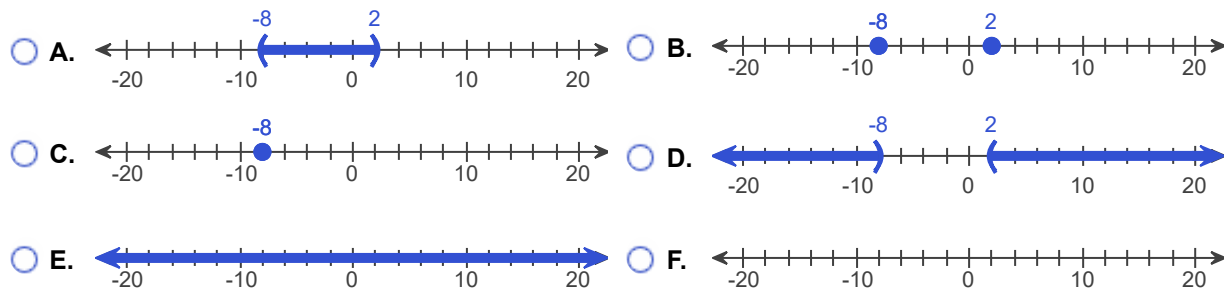
7. Solve the following inequality. Then graph the solution set.

$$|x + 3| < 5$$

Select the correct choices below, and, if necessary, fill in the answer box to complete your choice.

- A. The solution is an interval. The solution is _____.
(Simplify your answer. Type your answer in interval notation. Use integers or fractions for any numbers in the expression.)
- B. The solution set is one or two points. The solution set is {_____}.
(Type an integer or a fraction. Use a comma to separate answers as needed.)
- C. The solution set is \emptyset .

Choose the correct graph below.



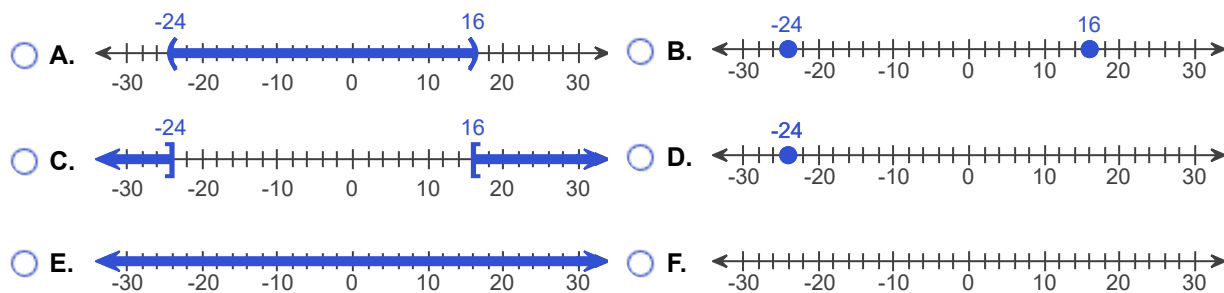
8. Solve the following inequality and graph the solution set.

$$|x + 4| \geq 20$$

Select the correct choice below and, if necessary, fill in the answer box to complete your choice.

- A. The solution is an interval. The solution is _____.
(Simplify your answer. Type your answer in interval notation. Use integers or fractions for any numbers in the expression.)
- B. The solution set is one or two points. The solution set is {_____}.
(Type an integer or a fraction. Use a comma to separate answers as needed.)
- C. The solution set is \emptyset .

Choose the correct graph below.



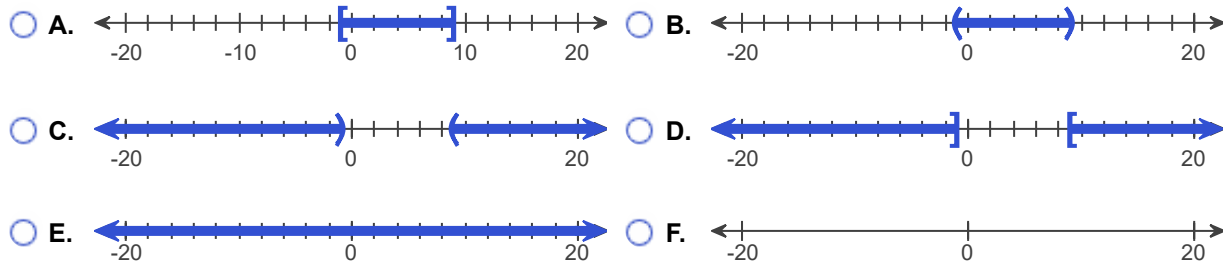
9. Solve the inequality. Then graph the solution set and write it in interval notation.

$$|x - 4| - 6 \leq -1$$

Select the correct choice below and, if necessary, fill in the answer box to complete your choice.

- A. The solution set is _____.
(Simplify your answer. Type your answer in interval notation. Use integers or fractions for any numbers in the expression.)
- B. The solution set is \emptyset .

Choose the correct graph below.

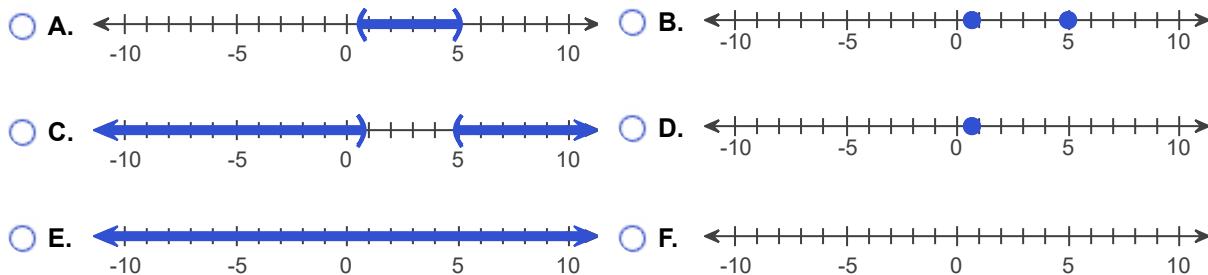


10. Solve the inequality $|6x - 17| + 2 > 15$. Graph the solution set and write it in interval notation.

Select the correct choices below and, if necessary, fill in the answer box to complete your choice.

- A. Written in interval notation, the solution is _____.
(Simplify your answer. Type your answer in interval notation. Use integers or fractions for any numbers in the expression.)
- B. The solution is a set of points. The solution set is {_____}.
(Type an integer or a fraction. Use a comma to separate answers as needed.)
- C. The solution set is \emptyset .

Graph the solution set on the number line. Choose the correct answer below.



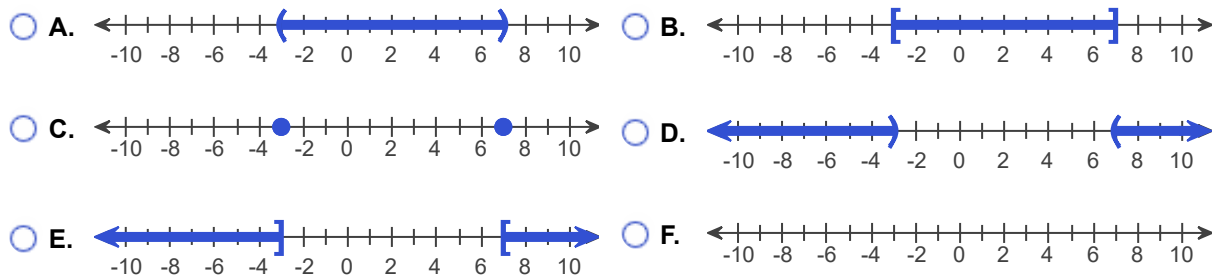
11. Solve the inequality. Graph the solution set.

$$-18 + |2x - 4| \leq -8$$

Select the correct choices below and, if necessary, fill in the answer box to complete your choice.

- A. The solution is one or more intervals. The solution is _____.
(Simplify your answer. Type your answer in interval notation. Use integers or fractions for any numbers in the expression.)
- B. There are only one or two solutions. The solution set is {_____}.
(Type an integer or a fraction. Use a comma to separate answers as needed.)
- C. The solution set is \emptyset .

Choose the correct graph below.

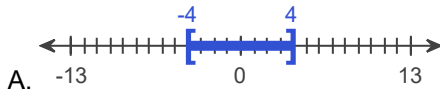


1. A. The solution set is $\{ \underline{16, -16} \}$.

(Type an integer or a simplified fraction. Use a comma to separate answers as needed.)

2. A. The solution is an interval. The solution is $\underline{[-4,4]}$.

(Simplify your answer. Type your answer in interval notation. Use integers or fractions for any numbers in the expression.)



3. A. The solution set is $\{ \underline{14, -3} \}$.

(Type an integer or a simplified fraction. Use a comma to separate answers as needed.)

4. A. The solution set is $\{ \underline{8,16} \}$.

(Type an integer or a simplified fraction. Use a comma to separate answers as needed.)

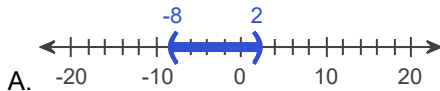
5. B. The solution set is \emptyset .

6. A. The solution set is $\{ \underline{16, -11} \}$.

(Type an integer or a simplified fraction. Use a comma to separate answers as needed.)

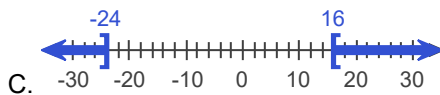
7. A. The solution is an interval. The solution is $\underline{(-8,2)}$.

(Simplify your answer. Type your answer in interval notation. Use integers or fractions for any numbers in the expression.)



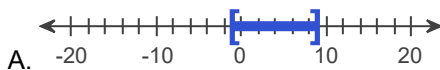
8. A. The solution is an interval. The solution is $\underline{(-\infty, -24] \cup [16, \infty)}$.

(Simplify your answer. Type your answer in interval notation. Use integers or fractions for any numbers in the expression.)



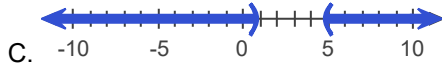
9. A. The solution set is $\underline{[-1,9]}$.

(Simplify your answer. Type your answer in interval notation. Use integers or fractions for any numbers in the expression.)



10. A. Written in interval notation, the solution is $\left(-\infty, \frac{2}{3}\right) \cup (5, \infty)$.

(Simplify your answer. Type your answer in interval notation. Use integers or fractions for any numbers in the expression.)



11. A. The solution is one or more intervals. The solution is $[-3, 7]$.

(Simplify your answer. Type your answer in interval notation. Use integers or fractions for any numbers in the expression.)

