Student: yaser almohaws	**Instructor:** fahad aljabr	**Assignment:** Week 11 Practice
Date: 1/1/15	**Course:** MATH-001: Fundamentals of Math 11415	Exercises
Time: 11:13 AM	**Book:** Bittinger: Introductory and Intermediate Algebra, 4e	

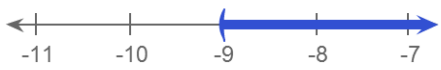
1. Solve. Then graph.

$t + 15 \geq 6$

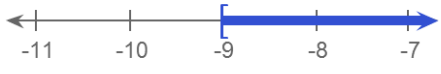
The solution is $\{t \mid t \geq -9\}$.

Which of the following is the graph of the solution?

A.

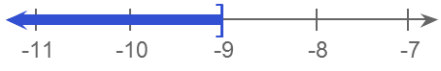


B.



C.

D.



2. Solve. Then graph.

$0.7x < -35$

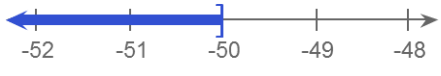
The solution is $\{x \mid x < -50\}$.

(Simplify your answer. Type an inequality symbol, then type an integer or a decimal.)

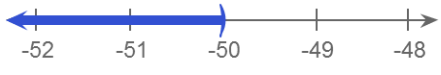
Choose the graph of the solution.

A.

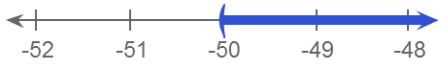
B.



C.



D.



3. Solve.

$5y - 2 < 7y - 3$

Use set-builder notation to describe the complete solution.

$\left\{y \mid y > \frac{1}{2}\right\}$

(Type an inequality symbol; then type an integer or a simplified fraction.)

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4. Solve.

$2(6y-4) \geq 9(2y+5)$

Use set-builder notation to describe the complete solution.

$\left\{y \mid y \leq -\frac{53}{6}\right\}$

(Simplify your answer. Type an inequality symbol; then type an integer or a fraction.)

5. $36-(4x+6) \leq 3(x+2)+x$

Use set-builder notation to describe the complete solution.

$\{x \mid x \geq 3\}$

(Type an inequality symbol; then type an integer or a decimal. Round to the nearest tenth as needed.)

6. Solve.

$1.3(7x+4) \geq 1.8-(x+5)$

Choose the correct solution set below.

- A. $\left\{x \mid x \geq -\frac{84}{101}\right\}$
- B. $\left\{x \mid x \geq \frac{84}{101}\right\}$
- C. $\left\{x \mid x \leq -\frac{84}{101}\right\}$
- D. $\left\{x \mid x \leq \frac{84}{101}\right\}$

7. Miguel's insurance company will replace his car if repair costs exceed 80% of the car's value. The car recently sustained $10000 worth of damage, but it was not replaced. What was the value of his car?

What was the value?

- A. $12500
- B. Greater than or equal to $12500.
- C. Less than $12500.
- D. More than $8000.

8. Chris can be paid in one of two ways. Plan A is a salary of $410 per month, plus a commission of 7% of sales. Plan B is a salary of $674 per month, plus a commission of 3% of sales. For what amount of sales is Chris better off selecting plan A?

Chris should select plan A for sales greater than $ 6600 .

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9. A bank offers two checking-account plans. Their Anywhere plan charges 15¢ per check whereas their Acu-checking plan costs $0.91 per month plus 8¢ per check. For what number of checks per month will the Acu-checking plan cost less?

Let n represents the number of checks. Select the correct choice below, and fill in the answer box.

A. $\{n|n \leq \quad\}$

B. $\{n|n > 13\}$

C. $\{n|n \geq \quad\}$

D. $\{n|n < \quad\}$

10. The percentage of women in the military who serve on active duty has been steadily increasing. The number of women N on the active duty force t years after 1971 is approximated by the formula: $N = 12{,}197.8t + 44{,}000$. How many women were in the military in 1971 ($t = 0$), 1982 ($t = 11$), and 1993 ($t = 22$)? For what years will the number of women be at least 400,000?

How many women were in the military in 1971 ($t = 0$)?
The solution is $N =$ 44000 .
(Round to the nearest whole number.)

How many women were in the military in 1982 ($t = 11$)?
The solution is $1982 =$ 178176 .
(Round to the nearest whole number.)

How many women were in the military in 1993 ($t = 22$)?
The solution is $1993 =$ 312352 .
(Round to the nearest whole number.)

For what years will the number of women be at least 400,000?
The solution is $\{y \mid y \geq 2001\}$.
(Round up to the nearest whole number.)

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11. Solve and graph.

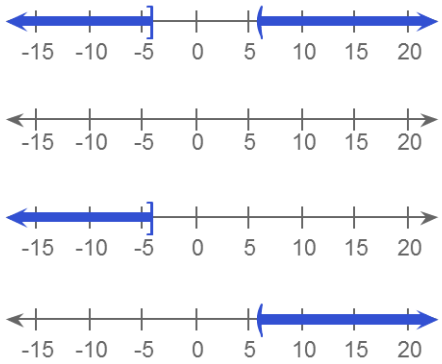
$1 - 4x \geq 17$ and $4x - 2 > 22$

Choose the correct solution below.

- A. $\varnothing$
- B. $\{x|x > 6\}$
- C. $\{x|x \leq -4\}$
- D. $\{x|-4 \leq x < 6\}$

Which of the following is the graph of the solution?

- A.
- B.
- C.
- D.



12. Solve.

$14 < 3y + 17 \leq 20$

The solution is $\{y \mid -1 < y \leq 1\}$.

13. Solve.

$$-8 < \frac{4x - 3}{4} < 5$$

The solution is $\left\{x \mid -\frac{29}{4} < x < \frac{23}{4}\right\}$.

(Type an integer or a fraction.)

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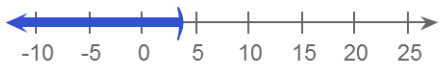
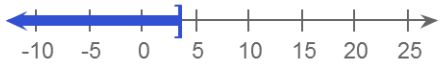
14. Solve and graph the compound inequality.

$2x - 15 \le -8$ or $x - 6 \ge 6$

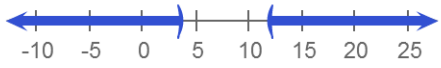
The solution of the compound inequality is $\left\{x \mid x \le \frac{7}{2} \text{ or } x \ge 12\right\}$.
(Type integers or fractions.)

Which of the following is the graph of the solution of the compound inequality?

A. 

B. 

C.

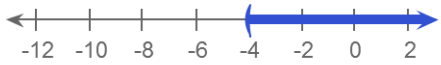
D. 

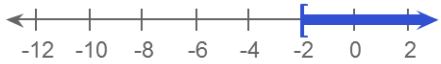
15. Solve and graph the compound inequality.

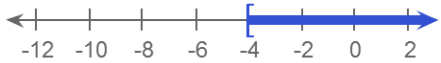
$9x + 2 \ge -34$ or $5x + 2 \ge -8$

The solution of the compound inequality is $\{x \mid x \ge -4\}$.

Choose the graph of the solution of the compound inequality.

A. 

B. 

C. 

16. Solve the following.

$-2x - 2 < -6$ or $-2x - 2 > 6$

Select the correct choice below, and fill in the answer boxes if necessary.

A. $\{x \mid x < -4 \text{ or } x > 2\}$ (Type integers or simplified fractions.)

B. All real numbers

C. $\varnothing$

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17. Solve the following.

$$\frac{4x-5}{6} \le -4 \text{ or } \frac{4x-5}{6} \ge 7$$

Select the correct choice below, and fill in the answer boxes if necessary.

A. $\left\{x \mid x \le -\frac{19}{4} \text{ or } x \ge \frac{47}{4}\right\}$ (Type integers or simplified fractions.)

B. All real numbers

C. $\varnothing$

18. In order to achieve maximum results from aerobic exercise, one should maintain one's heart rate at a certain level. A 30-yr-old woman with a resting heart rate of 75 beats per minute should keep her heart rate between 144 and 167 beats per minute while exercising. She checks her pulse for 10 sec while exercising. What should the number of beats be?

The number of beats in 10 sec should be between 24 and 28 beats.
(Type the smaller number in the first answer box and the larger number in the second answer box. Round to the nearest whole number.)

19. Solve.

$|4x-5| = 6$

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

A. The solution set is $\left\{\frac{11}{4}, -\frac{1}{4}\right\}$.
(Type an integer or a simplified fraction. Use a comma to separate answers as needed.)

B. The solution set is the empty set.

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20. Solve.

$|2x - 5| = 6$

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

A. The solution set is $\left\{\frac{11}{2}, -\frac{1}{2}\right\}$.
(Type an integer or a simplified fraction. Use a comma to separate answers as needed.)

B. The solution set is the empty set.

21. Solve.

$|7x| - 6 = 50$

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

A. The solution set is $\{8, -8\}$.
(Type an integer or a simplified fraction. Use a comma to separate answers as needed.)

B. The solution set is the empty set.

22. Solve.

$3|q| - 1 = 3$

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

A. The solution set is $\left\{\frac{4}{3}, -\frac{4}{3}\right\}$.
(Type an integer or a simplified fraction. Use a comma to separate answers as needed.)

B. The solution set is the empty set.

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23. Solve.

$18 - |2x - 3| = 6$

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

A. The solution set is $\left\{\frac{15}{2}, -\frac{9}{2}\right\}$
(Type an integer or a simplified fraction. Use a comma to separate answers as needed.)

B. The solution set is the empty set.

24. Solve.

$|4x - 9| = -13$

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 the empty set.

25. Solve.

$|8x - 7| \le 12$

The solution set is $\left\{x \mid -\frac{5}{8} \le x \le \frac{19}{8}\right\}$.
(Simplify your answer. Type an integer or a fraction.)

26. Solve.

$|8y - 7| > 16$

The solution set is $\left\{y \mid y < -\frac{9}{8} \text{ or } y > \frac{23}{8}\right\}$.
(Simplify your answer. Type an integer or a fraction.)

27. Solve.

$|3 - 2x| \ge 8$

Complete the solution set.

$\{x \mid x \le -\frac{5}{2} \text{ or } x \ge \frac{11}{2}\}$
(Simplify your answer. Type an integer or a fraction.)

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28. Solve the following inequality.

$|11 - 6x| < 25$

The solution set is $\left\{x \middle| -\frac{7}{3} < x < 6\right\}$.

(Type an integer or a simplified fraction.)

29. Solve.

$|m + 7| + 10 \leq 22$

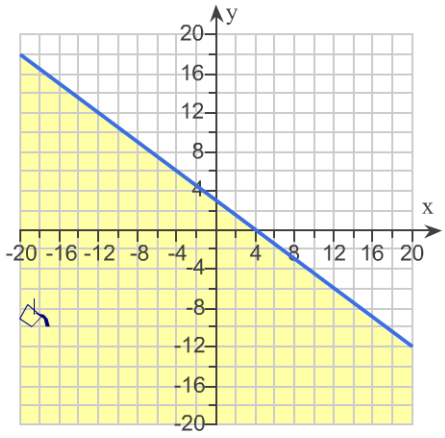
Complete the solution set.

$\{m \mid -19 \leq m \leq 5\}$

30. Graph the inequality on a plane.

$3x + 4y \leq 12$

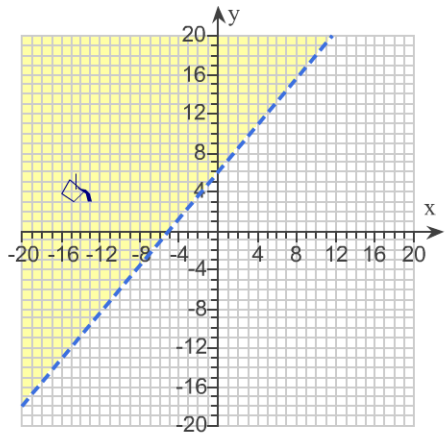
Use the graphing tool on the right to graph the inequality.



31. Graph the inequality on a plane.

$5y - 6x > 30$

Use the graphing tool on the right to graph the inequality.



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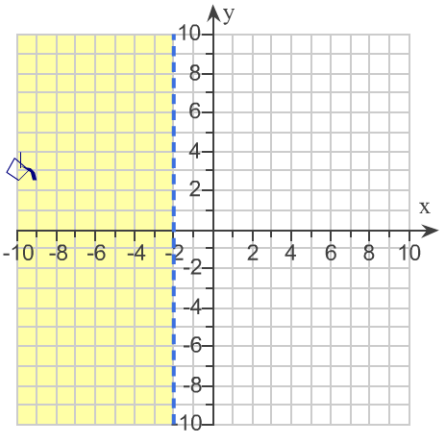
32. Graph the inequality on a plane.

$x < -2$

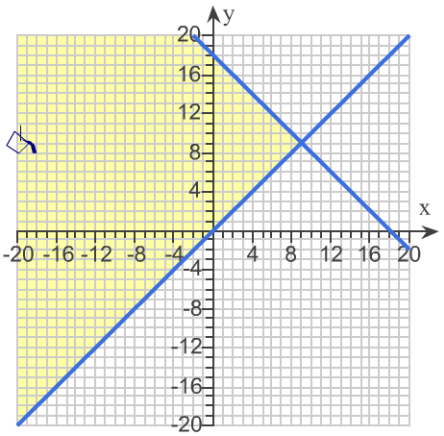
Use the graphing tool on the right to graph the inequality.



33. Graph the system of inequalities. Find the coordinates of any vertices formed.

$y \geq x$
$y \leq -x + 18$

Use the graphing tool to graph the system.

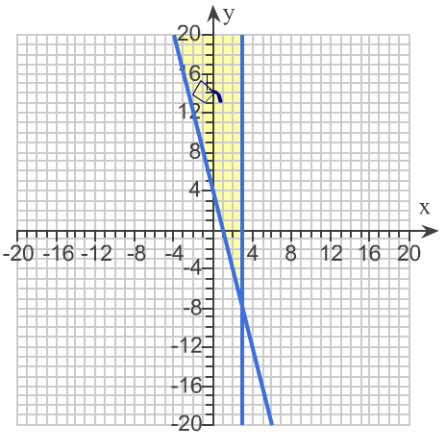


The coordinates of the vertex are $(9,9)$.
(Type an ordered pair.)

34. Graph the system of inequalities. Find the coordinates of any vertices formed.

$x \leq 3$
$y \geq -4x + 4$

Use the graphing tool to graph the system.



The coordinates of the vertex are $(3,-8)$.
(Type an ordered pair.)

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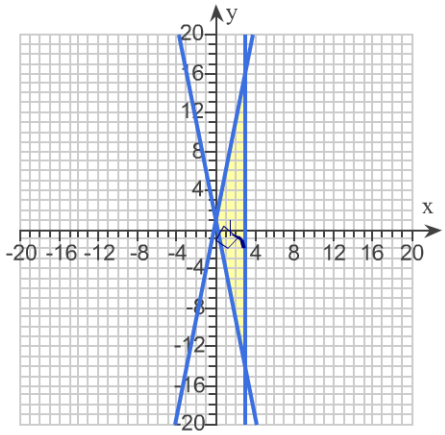
35. Graph the system of inequalities. Find the coordinates of any vertices formed.

$y \le 5x + 1$
$y \ge -5x + 1$
$x \le 3$

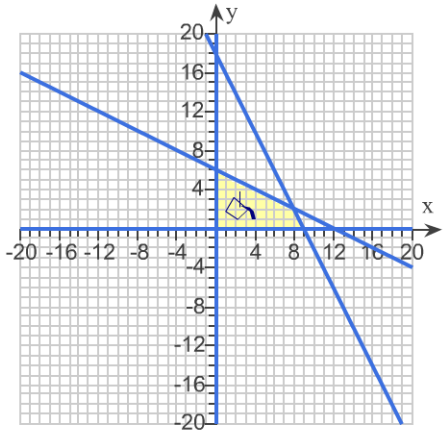
Use the graphing tool to graph the system.

The coordinates of the vertex/vertices are $(3,16),(0,1),(3,-14)$.
(Type an ordered pair. Use a comma to separate answers as needed.)



36. Graph the system of inequalities. Find the coordinates of any vertices formed.

$x + 2y \le 12,$
$2x + y \le 18,$
$x \ge 0,$
$y \ge 0$

Use the graphing tool to graph the system.

The coordinates of the vertex/vertices are $(0,0),(9,0),(8,2),(0,6)$.
(Type an ordered pair. Type an integer or a fraction.Use a comma to separate answers as needed.)