Student: Bobby Myers
Date: 1/31/16
Time: 2:43 PM

Instructor: Dee Wessler, Nathalie Dodson, Christina Horton
Course: MAT1302-14A-4B16-S1
Book: Bittinger: Elementary Algebra, Concepts and Applications, 9e

Assignment: Unit II Homework

1. Solve using the addition principle.

$-10w + 14 > 14 - 9w$

Select the correct choice below and fill in the answer box within your choice.

(Simplify your answer. Type an integer or a decimal.)

- ○ A. The solution set is $\{w \mid w \leq \square\}$.
- ○ B. The solution set is $\{w \mid w > \square\}$.
- ○ C. The solution set is $\{w \mid w < \square\}$.
- ○ D. The solution set is $\{w \mid w \geq \square\}$.

2. Solve using the multiplication principle. Then graph the solution set.

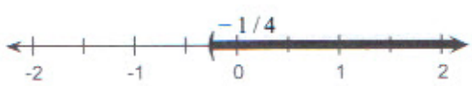
$$-2y \leq \frac{1}{2}$$

Select the correct choice below and fill in any answer boxes in your choice.

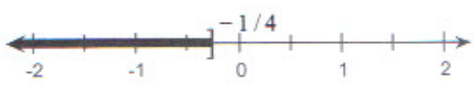
- ○ A. The solution set is $\{y \mid \square\}$. (Type an integer or a simplified fraction.)
- ○ B. The solution is the empty set.

Choose the correct graph below.

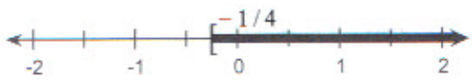
○ A.



○ B.



○ C.



○ D.

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3. Solve using the addition and multiplication principles.

$4(r-8)+4>5(r+2)-31$

Select the correct choice below and fill in the answer box within your choice.

- ○ A. The solution set is $\{r \mid r \leq \square\}$. (Simplify your answer.)
- ○ B. The solution set is $\{r \mid r \geq \square\}$. (Simplify your answer.)
- ○ C. The solution set is $\{r \mid r > \square\}$. (Simplify your answer.)
- ○ D. The solution set is $\{r \mid r < \square\}$. (Simplify your answer.)

4. Solve.

$\frac{3}{4}(2x-2)>15$

Select the correct choice below and fill in the answer box within your choice.

- ○ A. The solution set is $\{x \mid x < \square\}$ (Simplify your answer.)
- ○ B. The solution set is $\{x \mid x > \square\}$ (Simplify your answer.)
- ○ C. The solution set is $\{x \mid x \geq \square\}$ (Simplify your answer.)
- ○ D. The solution set is $\{x \mid x \leq \square\}$ (Simplify your answer.)

5. A car rents for \$35 per day plus 18¢ per mile. You are on a daily budget of \$71. What mileage will allow you to stay within your budget?

The solution is $\{m \mid m \leq \square$ miles$\}$.

6. The formula $R = -0.075t + 3.85$ can be used to predict the world record in the 1500 meter run, t years after 1930. Determine an inequality that identifies the years in which the world record will be less than 3.1 minutes.

Solve for t.

$t > \square$

(Round to the nearest whole number.)

The years after 1930, in which the record is less than 3.1 minutes, are described by the solution set $\{\text{Years} \mid \text{Years} > \square\}$.

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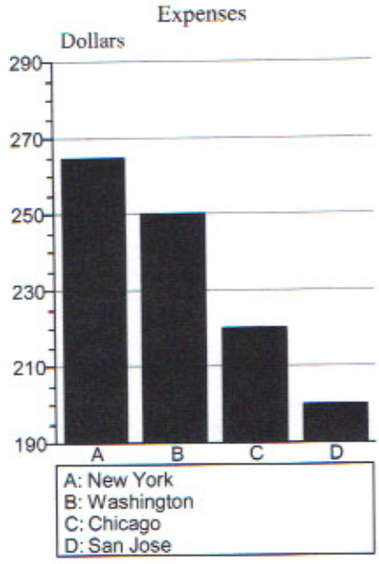
7.

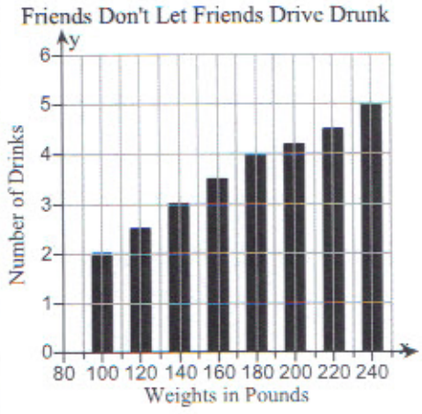


The bar graph shows the average daily expenses for lodging, food, and rental car for traveling executives?

What are the average daily expenses in New York?

The answer is ☐ dollars.

8. A blood-alcohol level of 0.08% or higher makes driving illegal in the United States. The bar graph shows how many drinks a person of a certain weight would need to consume in 1 hr to achieve a blood-alcohol level of 0.08%. Note that a 12-oz beer, a 5-oz glass of wine, or a cocktail containing $1\frac{1}{2}$ oz of distilled liquor all count as one drink. What can you conclude about the weight of someone who has consumed 4.5 drinks in 1 hr and has reached a blood-alcohol level of 0.08%?



The person weighs ☐ lbs.

less than or equal to
greater than
greater than or equal to
less than

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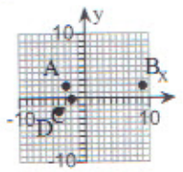
9. Graph the points on the same axes.

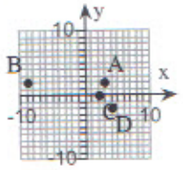
$A(3,2), B(-9,2),$
$C(2,0), D(4,-2)$

Choose the correct answer below.

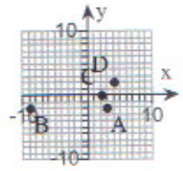
○A.



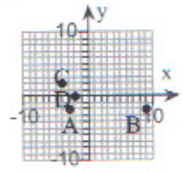
○B.



○C.



○D.



10. In which quadrant or on which axis is the point $(-\frac{3}{4},0)$ located?

Choose the correct answer below.

○A. Quadrant I

○B. Quadrant III

○C. Quadrant IV

○D. Quadrant II

○E. x-axis

○F. y-axis

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11. Show that each pair is a solution of the equation. Then graph the two pairs to determine another solution.

$y + 2x = 4$; $(2,0)$, $(5,-6)$

Is the pair $(2,0)$ a solution?

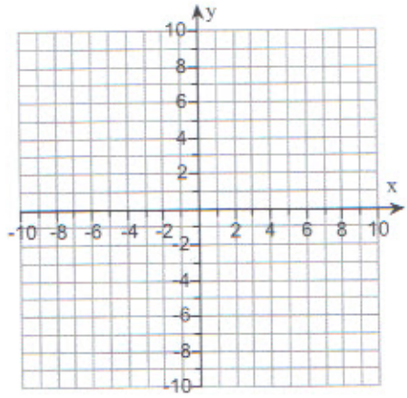
○ No ○ Yes

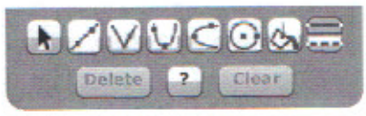
Is the pair $(5,-6)$ a solution?

○ Yes ○ No

Use the graphing tool to graph the equation.

Click to enlarge graph





Use the graph to determine another solution of $y + 2x = 4$. Is the pair $(-1,6)$ a solution?

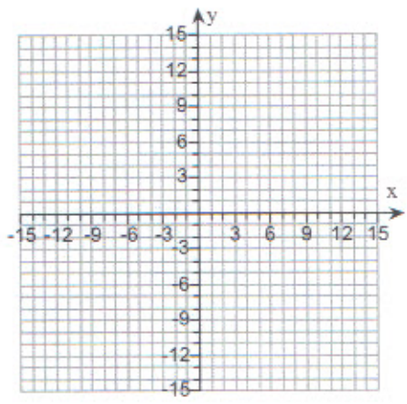
○ Yes ○ No

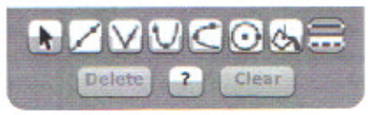
12. Graph the equation.

$$y = -\frac{1}{6}x$$

Use the graphing tool to graph the equation.

Click to enlarge graph





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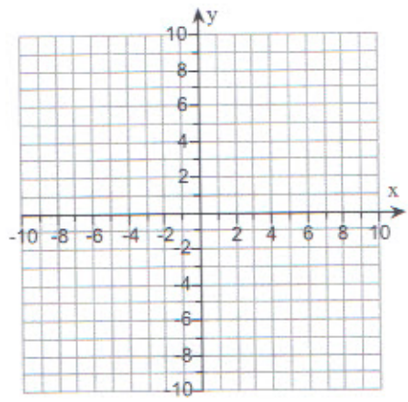
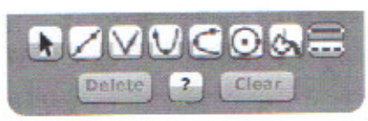
13. Graph the equation.

$3x - y = 0$

Use the graphing tool to graph the linear equation.

Click to enlarge graph

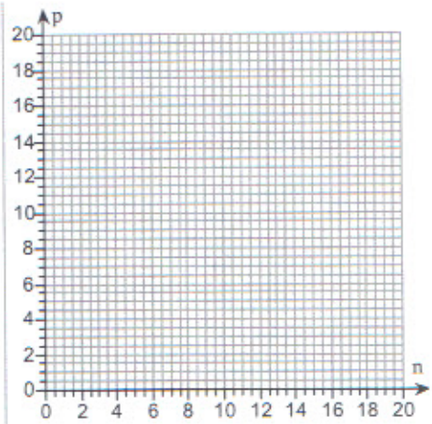


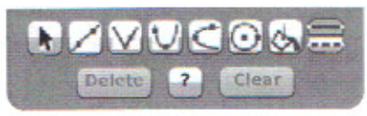


14. The price p, in dollars, of an 8-in. by 8-in. hardcover photobook is given by $p = 0.5n + 8$, where n is the number of pages in the photobook. Graph the equation and use the graph to estimate the price of a photobook containing 17 pages.

Use the graphing tool to graph the equation.

Click to enlarge graph





The price of a photobook containing 17 pages is $\$\square$.

(Type an integer or a decimal.)

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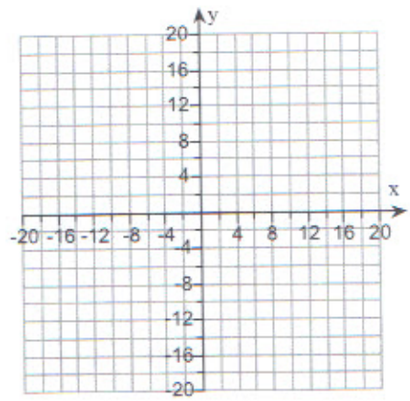
15. Use the intercepts to graph the equation.

$7x - 2y = 14$

Use the graphing tool to graph the line. Use the intercepts when drawing the line. If only one intercept exists, use it and another point to draw the line.

Click to enlarge graph

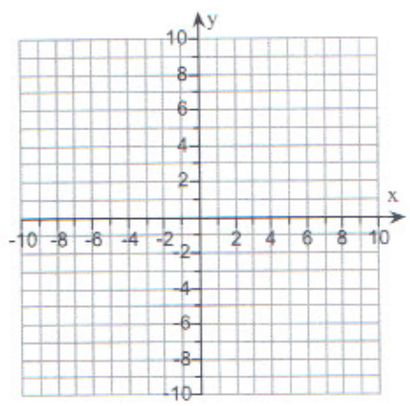


16. Graph.

$x = -5$

Use the graphing tool to graph the line. Use the intercepts when drawing the line. If only one intercept exists, use it and another point to draw the line.

Click to enlarge graph



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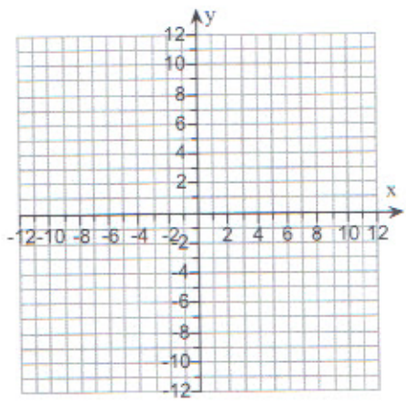
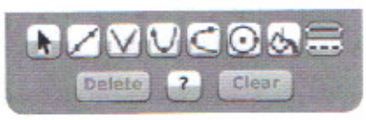
17. Graph.

$54 + 6y = 0$

Use the graphing tool to graph the line. Use the intercepts when drawing the line. If only one intercept exists, use it and another point to draw the line.

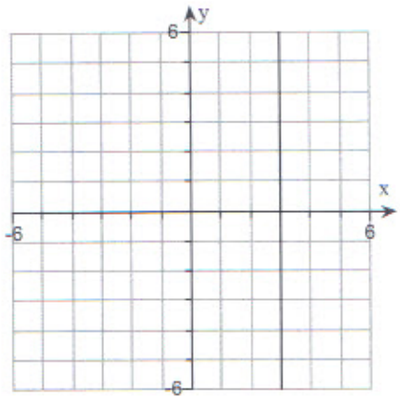
Click to enlarge graph





18. Write the equation for the graph.

The correct equation is ☐.



19. On May 12, Cliff rented a car with a full tank of gas and 11,155 mi on the odometer. On May 15, he returned the car with 11,260 mi on the odometer. The rental agency charged Cliff $114 and needed 7 gal of gas to fill up the tank. Assume that the pickup time was later in the day than the return time so that no late fees were applied.

The car traveled ☐ miles per gallon of gas consumed.

The agency charged Cliff $☐ per day for the car.

Cliff drove ☐ miles per day.

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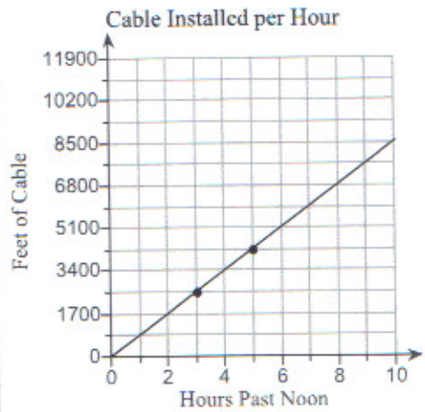
20. The graph shows data from an afternoon on the site of a construction job.



The electrical team installed cable at a rate of how many feet per hour?

- ○A. 0
- ○B. 425
- ○C. 1275
- ○D. 850

21. Find the slope of the line containing the given pair of points. If the slope is undefined, state this.

$(-3,5)$ and $(1,2)$

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

- ○A. The slope is ■.(Type an integer or a simplified fraction.)
- ○B. The slope is undefined.

22. Find the slope, if it exists, of the line containing the points $\left(-7,\frac{1}{2}\right)$ and $\left(-4,\frac{1}{2}\right)$.

Select the correct choice below and fill in any answer boxes within your choice.

- ○A. The slope is m = ■. (Type an integer or a simplified fraction.)
- ○B. The slope is undefined.

23. Find the slope, if it exists, of the line containing the points $(10,-4)$ and $(10,-6)$.

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

- ○A. m = ■ (Type an integer or a simplified fraction.)
- ○B. The slope is undefined.

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24. Find the slope of the line.

$y = 4$

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

○A. The slope is ■. (Type an integer or a simplified fraction.)

○B. The slope is undefined.

25. Find the slope of the line.

$x = -6$

Select the correct choice below and fill in any answer boxes within your choice.

○A. The slope is ■. (Type an integer or a simplified fraction.)

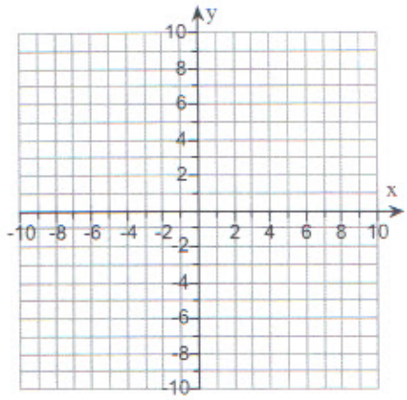
○B. The slope is undefined.

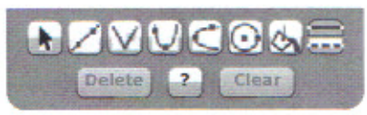
26. Draw a line that has the indicated slope and y-intercept.

slope = 6 and y-intercept $(0, -2)$

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

Click to enlarge graph





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27. Find the slope and the y-intercept of the line.

$y = \frac{8}{9}x - 10$

The slope is ☐.
(Type an integer or a fraction.)

The y-intercept is ☐.
(Type an ordered pair.)

28. Find the slope and the y-intercept of the line with the given equation.

$y = 4$

The slope is ☐.

The y-intercept is ☐. (Type an ordered pair.)

29. Find the slope and the y-intercept.

$4x - 3y = 7$

Slope = ☐ (Simplify your answer.)

y-intercept = ☐ (Type an ordered pair. Simplify your answer.)

30. Find the slope and the y-intercept of the line whose equation is given.

$4x - 9y = 0$

The slope is ☐. (Type an integer or a simplified fraction.)

The y-intercept is ☐. (Type an ordered pair.)

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31. Find the slope-intercept equation of the line that has the given characteristics.

Slope $-\frac{15}{11}$ and y-intercept $(0, -2)$

The slope-intercept equation is $\square$.

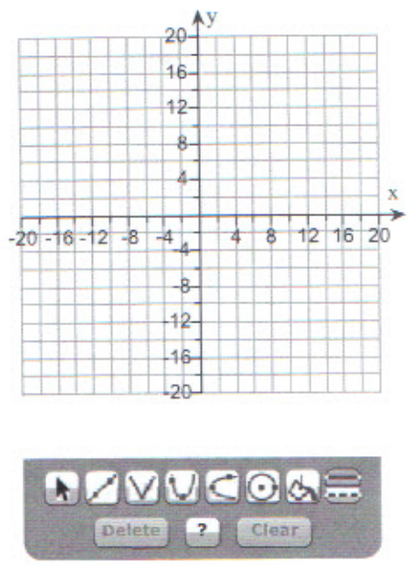
(Type an equation. Type your answer in slope-intercept form. Use integers or fractions for any numbers in the equation. Simplify your answer.)

32. Graph the equation using the slope and the y-intercept.

$y = \frac{8}{5}x + 5$

Use the graphing tool to graph the line. Use the slope and y-intercept when drawing the line.

Click to enlarge graph



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33. Determine if the graphs of the given equations are parallel.

$y = 3x + 8$

$7y + 3x = 6$

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

○A. The slope of the line $y = 3x + 8$ is ■.

○B. The slope of the line $y = 3x + 8$ is undefined.

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

○A. The slope of the line $7y + 3x = 6$ is ■.

○B. The slope of the line $7y + 3x = 6$ is undefined.

Are the graphs of the given equations parallel?

○ Yes

○ No

34. Write an equation of the line parallel to the line given by $-3x + 9y = 7$ and having the same y-intercept as the line given by $3x - 2y = 0$.

The equation is ☐.
(Simplify your answer. Type your answer in slope-intercept form. Use integers or fractions for any numbers in the equation.)

35. Two lines are perpendicular if either the product of their slopes is -1, or one line is vertical and the other horizontal. Write an equation of the line perpendicular to the line given by $8x - 9y = 3$ and having the same y-intercept as the line given by $6x + 2y = 4$.

The equation is ☐.
(Simplify your answer. Type your answer in slope-intercept form. Use integers or fractions for any numbers in the equation.)

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36. Write the equation of the line, with the given properties, in slope-intercept form.

Slope $= -8$, through $(-3,1)$

The equation of the line is $\square$.

(Type an equation. Use integers or fractions for any numbers in the equation. Type your answer in slope-intercept form. Simplify your answer.)

37. Write the slope-intercept equation for the line containing the given pair of points.

$(-10,2)$ and $(10,10)$

The slope-intercept equation is $\square$.

(Type an equation. Use integers or fractions for any numbers in the equation. Simplify your answer.)

38. For the point-slope equation given, state the slope and a point on the graph of $y + 1 = -2(x - 8)$ by looking at the equation.

From the equation the slope is $\square$.

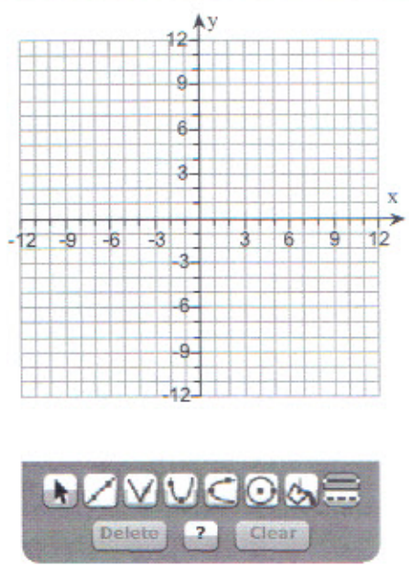
From the equation a point on the graph of $y + 1 = -2(x - 8)$ is $\square$. (Type an ordered pair.)

39. Graph the equation using the point and the slope.

$y + 7 = 4(x + 9)$

Use the graphing tool to graph the equation. Use the point obtained from the equation when drawing the line.

Click to enlarge graph



Student: Bobby Myers **Date:** 1/31/16 **Time:** 2:43 PM	**Instructor:** Dee Wessler, Nathalie Dodson, Christina Horton **Course:** MAT1302-14A-4B16-S1 **Book:** Bittinger: Elementary Algebra, Concepts and Applications, 9e	**Assignment:** Unit II Homework

40. In a country the number of students who completed high school and enrolled in college that same year increased from 1.7 million in 2004 to 2.4 million in 2008.
a) Find an equation for the line including the given data points. Let x represent the number of years after 2000 and y the number of recent high school graduates (or the equivalent) who enrolled in college that year.
b) Estimate the number of high school graduates (or the equivalent) who enrolled in college in 2007 and in 2013.

(a) The equation for the line representing the given data is ☐.
(Type an equation. Type your answer in slope-intercept form. Use integers or decimals for any numbers in the equation. Simplify your answer.)

(b) In the year 2007 around ☐ million graduates enrolled in college and in the year 2013 around ☐ million graduates will enroll in college.
(Do not round until the final answer. Then round to the nearest hundredth as needed.)