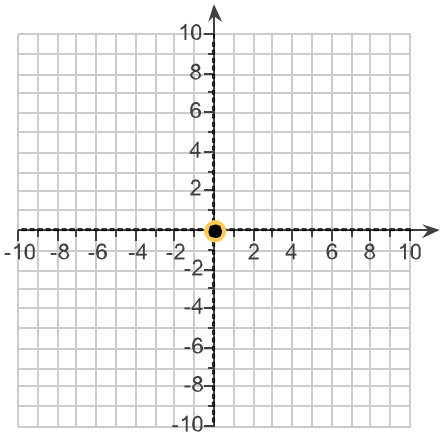
Student: James Cook **Date:** 8/19/11 **Time:** 2:37 PM	**Instructor:** James Cook **Course:** Math 121, section 3, Fall 2011 **Book:** Blitzer: College Algebra, 5e	**Assignment:** Assignment 1 (also covered by Test 1)

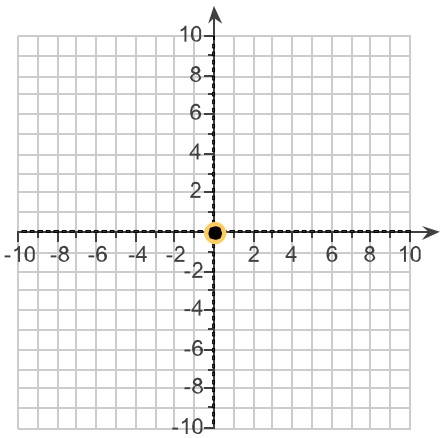
1. Plot the point $(-7, -9)$ in the rectangular coordinate system.

Plot $(-7, -9)$.



2. Plot the point $(-1, 0)$ in the rectangular coordinate system.

Plot $(-1, 0)$.



3. Find the value of the variable that satisfies the equation. Check your solution. Answers that are not integers may be left in fractional form or decimal form.

$$9x - 4 = 68$$

The solution set is $\{\square\}$.

4. Solve the equation. Be sure to check your proposed solution by substituting it for the variable in the original equation.

$$7x - (5x - 3) = 11$$

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

- A. The solution set is $\{\square\}$.
- B. The solution set is all real numbers.
- C. There is no solution.

5. Solve and check the following linear equation.

$$12 = 3(x - 3) - (x - 5)$$

The solution set is $\{\square\}$. (Simplify your answer.)

6. Solve.

$$\frac{3x}{2} - x = \frac{x}{6} - \frac{2}{3}$$

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

- A. The solution set is $\{\square\}$. (Simplify your answer.)
- B. The solution set is $\{x \mid x \text{ is a real number}\}$.
- C. The solution set is $\varnothing$.

7. Solve and check the linear equation.

$$\frac{x}{2} = 4 + \frac{x - 35}{5}$$

The solution set is $\{\square\}$. (Simplify your answer.)

8. The following rational equation has denominators that contain variables. For this equation, **a.** Write the value or values of the variable that make a denominator zero. These are the restrictions on the variable. **b.** Keeping the restrictions in mind, solve the equation.

$$\frac{3}{x} = \frac{11}{5x} + 4$$

a. What are the value or values of the variable that makes the denominators zero?

$x = \square$

(Simplify your answer. Use a comma to separate answers as needed.)

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

- A. The solution set is $\{\square\}$. (Simplify your answer.)
- B. There is no solution.

9. $$\frac{1}{x+1} + 5 = \frac{11}{x+1}$$

a. Write the value or values of the variable that make a denominator zero. These are the restrictions on the variable.
b. Keeping the restrictions in mind, solve the equation.

a. The restrictions on the variable are $x \neq$ ☐.
(Use a comma to separate answers as needed.)

b. Solve the equation. 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. Use a comma to separate answers as needed.)

○ B. There is no solution.

10. The following rational equation has denominators that contain variables. For this equation, **a.** Write the value or values of the variable that make a denomiantor zero. These are the restrictions on the variable. **b.** Keeping the restrictions in mind, solve the equation.

$$\frac{5}{x+5} + \frac{3}{x-4} = \frac{27}{(x+5)(x-4)}$$

a. What are the value or values of the variable that makes the denominators zero?

$x =$ ☐
(Simplify your answer. Use a comma to separate answers as needed.)

b. Solve the equation. 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.)

○ B. There is no solution.

11. For the following equation, **a.**Write the value or values of the variable that make a denominator zero. These are the restrictions on the variable. **b**.Keeping the restrictions in mind, solve the equation.

$$\frac{3}{x+3} - \frac{1}{x-3} = \frac{3x}{x^2-9}$$

a. Write the value or values of the variable that make a denominator zero.

☐ (Use a comma to separate answers as needed.)

b. Solve the equation.

The solution set is {☐}.

12.

$$\frac{1}{x-2} - \frac{4}{x+5} = \frac{7}{x^2+3x-10}$$

a. Write the value or values of the variable that make a denominator zero. These are the restrictions on the variable.
b. Keeping the restrictions in mind, solve the equation.

a. The restrictions on the variable are $x \neq$ ☐.
(Use a comma to separate answers as needed.)

b. Solve the equation. 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. Use a comma to separate answers as needed.)

○ B. There is no solution.

13. Find all values of x satisfying the given conditions.

$$y_1 = 2(3x-6) - 7,\ y_2 = 4(x-5) + 19,\ y_1 = y_2$$

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. Use a comma to separate answers as needed.)

○ B. There is no solution.

14. Find all values of x satisfying the following conditions.

$$y_1 = \frac{x-2}{4},\ y_2 = \frac{x-10}{5},\ \text{and}\ y_1 - y_2 = 1.$$

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

- A. The solution set is $\{\square\}$. (Simplify your answer.)
- B. There are no solutions.

15. Determine whether the following equation is an identity, a conditional equation, or an inconsistent equation.

$$2(x-8) = 2x - 16$$

Choose the correct answer below.

- Conditional
- Inconsistent
- Identity

16. Determine whether the following equation is an identity, a conditional equation, or an inconsistent equation.

$$12x + 18 = 12x - 18$$

Choose the correct answer below.

- Inconsistent
- Conditional
- Identity

17. Determine whether the following equation is an identity, a conditional equation, or an inconsistent equation.

$$3x + 6x = 8x$$

What type of equation is $3x + 6x = 8x$?

- ○ Identity
- ○ Inconsistent equation
- ○ Conditional equation

18. Solve the equation. Then state whether the equation is an identity, a conditional equation, or an inconsistent equation.

$$\frac{2}{x-2} = 3 + \frac{x}{x-2}$$

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.)
- ○ B. There is no solution.

Is the equation an identity, a conditional equation, or an inconsistent equation?

- ○ Inconsistent equation
- ○ Identity
- ○ Conditional equation

19. Solve the linear equation. Identify the equation as being an identity, a conditional equation, or an inconsistent equation.

$9(x+3) = 6(x-3) + 3(x+15)$

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 all real numbers.
- C. There is no solution.

State whether the equation is an identity, a conditional equation, or an inconsistent equation.

- Identity
- Conditional equation
- Inconsistent equation

20. A rectangular athletic field is twice as long as it is wide. If the perimeter of the athletic field is 72 yards, what are its dimensions?

What is the width?

yards

What is the length?

yards

21. The length of a new rectangular playing field is 3 yards longer than triple the width. If the perimeter of the rectangular playing field is 358 yards, what are its dimensions?

The width is yards.

The length is yards.

22. Solve the formula for the specified variable.

$K = md^2$ for m

m =

23. Use factoring to solve the quadratic equation. Check by substitution or by using a graphing utility and identifying x-intercepts.

$$x^2 - x - 72 = 0$$

The solution set is $\{\square\}$.
(Use a comma to separate answers as needed. Type repeated roots only once.)

24. Solve the equation by factoring.

$$9x^2 + 21x - 8 = 0$$

The solution set is $\{\square\}$.
(Use a comma to separate answers as needed.)

25. Use factoring to solve the quadratic equation. Check by substitution or by using a graphing utility and identifying x-intercepts.

$$4x^2 + 12x = 0$$

The solution set is $\{\square\}$.
(Use a comma to separate answers as needed.)

26. Solve the equation and check your solutions.

$$4(x-4)^2 + x^2 = x(x+81) - 45x$$

The solution set is $\{\square\}$. (Use a comma to separate answers as needed.)

27. Solve the quadratic equation by the square root property.

$$2x^2 = 72$$

The solution set is $\{\square\}$.
(Simplify your answers. Type exact answers, using radicals as needed. Use a comma to separate answers as needed.)

28. Solve the equation by the square root method.

$$(x-6)^2 = 25$$

What is the solution set?

$\{\square\}$ (Use a comma to separate answers as needed.)

29. Solve the equation by the square root property.

$$(6x-2)^2 = 35$$

The solution set is {□}.
(Type an exact answer, using radicals as needed. Use a comma to separate answers as needed. Express complex numbers in terms of i.)

30. Solve the quadratic equation by completing the square.

$$x^2 + 8x = 33$$

What is the solution set?

{□} (Use a comma to separate answers as needed.)

31. Solve the quadratic equation by completing the square.

$$x^2 - 6x - 2 = 0$$

The solution set is {□}.
(Simplify your answer. Type an exact answer, using radicals as needed. Use a comma to separate answers as needed. Express complex numbers in terms of i.)

32. Solve the following equation by completing the square.

$$2x^2 - 2x - 1 = 0$$

The solution set is {□}.
(Type an exact answer, using radicals as needed. Use a comma to separate answers as needed.)

33. Solve the following equation using the quadratic formula.

$$x^2 + 7x + 10 = 0$$

The solution set is {□}. (Use a comma to separate answers as needed.)

34. Solve the equation using the quadratic formula.

$$x^2 + 13x + 8 = 0$$

The solution set is {□}.
(Type an exact answer, using radicals as needed. Use a comma to separate answers as needed.)

35. Solve the equation using the quadratic formula.

$$3x^2 = 4x + 3$$

The solution set is $\{\square\}$.
(Type an exact answer, using radicals as needed. Use a comma to separate answers as needed.)

36. Compute the discriminant. Then determine the number and type of solutions for the given equation.

$$3x^2 - 9x + 7 = 0$$

What is the discriminant?

$\square$

Choose the sentence that describes the number and type of solutions to the quadratic equation.

- There are two complex imaginary solutions.
- There is one real solution.
- There are two unequal real solutions.

37. Compute the discriminant of the following equation. What does the discriminant indicate about the number and type of solutions?

$$x^2 - 5x - 3 = 0$$

- This equation has no real solutions.
- This equation has two imaginary solutions.
- This equation has one real solution.
- This equation has two distinct real solutions.
- None of the above.

38. Solve the equation by the method of your choice.

$$\frac{1}{x} + \frac{1}{x+4} = \frac{1}{4}$$

The solution set is $\{\square\}$.
(Simplify your answers. Type exact answers, using radicals as needed. Use a comma to separate answers as needed.)

39. Solve the equation.

$$\frac{x^2+9}{x^2-9}=\frac{x}{x+3}-\frac{3}{x-3}$$

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

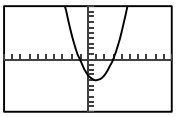
- A. The solution set is $\{\square\}$. (Simplify your answer.)
- B. There is no solution.

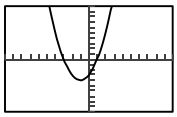
40. Determine the x-intercepts of the graph of the quadratic. Then match the function with its graph. Each graph is shown in a $[-10, 10, 1]$ by $[-10, 10, 1]$ viewing rectangle.

$$y=x^2+4x+3$$

The x-intercepts are $\square$.
(Type an integer or a fraction. Use a comma to separate answers as needed.)

Choose the correct graph below.

A.


B.


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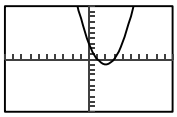

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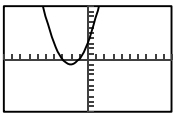


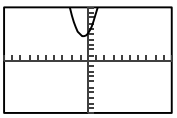
41. Find the x-intercept(s) of the graph of the equation. Use the x-intercepts to match the equation to its graph.

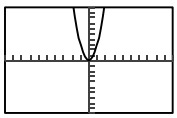
$$y=-(x-4)^2+9$$

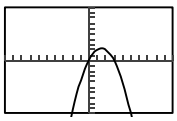
Select the correct choice below and fill in any answer boxes within your choice.

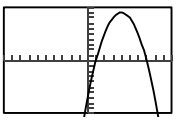
- A. The x-intercept(s) is/are $\square$.
  (Simplify your answer. Type an ordered pair. Use a comma to separate answers as needed.)
- B. There are no intercepts.

Use the x-intercept(s) to match the equation to its graph. Choose the correct graph below.

A.


B.


C.


D.


(The graphs are shown in $[-10,10,1]$ by $[-10,10,1]$ viewing rectangles.)

42. Find the x-intercept(s) of the graph of the equation. Use the x-intercepts to match the equation to its graph.

$$y = 3x^2 + 6x + 5$$

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

○ A. The x-intercept(s) is/are ■.
(Simplify your answer. Type an ordered pair. Use a comma to separate answers as needed.)

○ B. There are no intercepts.

Use the x-intercept(s) to match the equation to its graph. Choose the correct graph below.

○ A. ○ B. ○ C. ○ D.

(The graphs are shown in $[-15,15,3]$ by $[-15,15,3]$ viewing rectangles.)

43. Find all values of x satisfying the given conditions.

$$y = 4x^2 + 6x \text{ and } y = 4$$

The solution set is {□}.
(Type an integer or a simplified fraction. Use a comma to separate answers as needed.)

44. Find all values of x satisfying the given conditions.

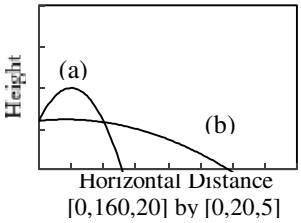
$$y_1 = x^2 + 8x - 6,\ y_2 = -x^2 + 10x - 4,\ y_1 - y_2 = 0$$

The solution set is {□}.
(Type an exact answer, using radicals as needed. Use a comma to separate answers as needed.)

45. An athlete whose event is the shot put releases the shot. When the shot is released at an angle of 20°, its path can be modeled by the formula

$$y = -0.01x^2 + 0.4x + 5.9$$

in which x is the shot's horizontal distance, in feet, and y is its height, in feet. This formula is shown by one of the graphs, (a) or (b), in the figure. Use the formula to answer the questions below.



Use the formula to determine the shot's maximum distance.

The maximum distance is approximately ☐ feet.
(Round to the nearest tenth as needed.)

Which graph, (a) or (b), shows the shot's path?

- ○ graph (b)
- ○ graph (a)

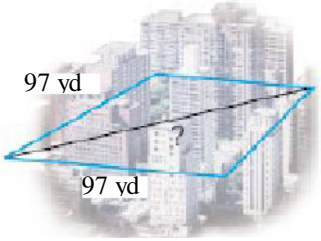
46. Use the Pythagorean Theorem and the square root property to solve the following problem. Express your answer in simplified radical form. Then find a decimal approximation to the nearest tenth.

A rectangular park is 30 miles long and 10 miles wide. How long is a pedestrian route that runs diagonally across the park?

In simplified radical form, the pedestrian route is ☐ miles long.

Rounded to the nearest tenth, the pedestrian route is ☐ miles long.

47. A city block is a square with each side measuring 97 yards. Find the length of the diagonal of the city block.



The length of the diagonal is approximately ☐ yards.
(Round to the nearest hundredth as needed.)

48. Use factoring to solve the polynomial equation. Check by substitution or by using a graphing utility and identifying x-intercepts.

$$6x^4 - 54x^2 = 0$$

The solution set is {☐}.
(Use a comma to separate answers as needed. Type repeated roots only once.)

49. Solve the polynomial equation by factoring and then using the zero-product principle.

$$x^3 + 2x^2 = 36x + 72$$

What is the solution set?

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

- A. {■} (Use a comma to separate answers as needed. Simplify your answer.)
- B. There is no solution.

50. Solve the polynomial equation by factoring and then using the zero-product principle.

$$5x^4 = 1080x$$

What is the solution set? Select the correct choice below and, if necessary, fill in the answer box to complete your choice.

- A. {■}
  (Use a comma to separate answers as needed. Simplify your answer. Type your answer in the form $a + bi$.)
- B. There is no solution.

51. Find the real solutions of the equation.

$$\sqrt{10 - 3x} = x$$

What is the solution set? Select the correct choice below and fill in any answer boxes in your choice.

- A. {■}
  (Simplify your answer. Use a comma to separate answers as needed.)
- B. There are no real solutions.

52. Solve the radical equation.

$$\sqrt{2x + 7} = x - 4$$

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

- A. The solution set is {■}.
  (Use a comma to separate answers as needed.)
- B. There is no solution.

53. Solve the given radical equation. Check all proposed solutions.

$$\sqrt{5x+41} = x+7$$

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

- A. The solution set is $\{\square\}$.
  (Use a comma to separate answers as needed.)
- B. There is no solution.

54. Solve the radical equation. Check all proposed solutions.

$$\sqrt{x+18} - \sqrt{x-2} = 2$$

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

- A. The solution set is $\{\square\}$. (Use a comma to separate answers as needed.)
- B. There is no solution.

55. Solve the radical equation. Check all proposed solutions.

$$\sqrt{x} + \sqrt{x-15} = 3$$

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

- A. The solution set is $\{\square\}$.
  (Simplify your answer. Type an integer or a simplified fraction. Use a comma to separate answers as needed.)
- B. The solution set is the empty set.

56. Solve the equation. Check all solutions.

$$2x^{3/2} - 14 = 0$$

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

- A. The solution set is $\{\square\}$.
  (Type an exact answer in simplified form. Use a comma to separate answers as needed.)
- B. There is no solution.

57. Solve the equation with rational exponents.

$$(x-4)^{2/3}=4$$

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

- A. The solution set is $\{\square\}$.
  (Simplify your answer. Use a comma to separate answers as needed.)
- B. The solution set is the empty set.

58. Find all real and complex roots.

$$x^4-9x^2+20=0$$

The solution set is $\{\square\}$.
(Use a comma to separate answers as needed. Type an exact answer, using radicals as needed. Type complex answers in the form $a+bi$.)

59. Solve the equation with rational exponents.

$$4x^4=85x^2-441$$

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

- A. The solution set is $\{\square\}$.
  (Simplify your answer. Use a comma to separate answers as needed.)
- B. The solution set is the empty set.

60. Find the real solutions of the equation.

$$(x+2)^2+9(x+2)+18=0$$

What is the solution set? Select the correct choice below and fill in any answer boxes in your choice.

- A. The solution set is $\{\square\}$.
  (Use a comma to separate answers as needed. Rationalize all denominators. Type an integer or a simplified fraction.)
- B. There are no real solutions.

61. Solve.

$|x| = 11$

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

- A. The solution set is $\{\square\}$.
  (Use a comma to separate answers as needed.)
- B. The solution set is all real numbers.
- C. The solution is the empty set.

62. Find the solution set for the equation.

$|x - 7| = 9$

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

- A. The solution set is $\{\square\}$.
  (Simplify your answer. Use a comma to separate answers as needed.)
- B. There is no solution.

63. Find the solution(s) for the equation.

$2|9x| + 5 = 15$

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

- A. The solution set is $\{\square\}$.
  (Use a comma to separate answers as needed.)
- B. There is no solution.

64. Find the solution set for the equation.

$|2x - 1| + 3 = 3$

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

- A. The solution set is $\{\square\}$.
  (Simplify your answer. Use a comma to separate answers as needed.)
- B. There are infinitely many solutions.
- C. There is no solution.

65. Find all the values of x satisfying the given conditions.

$y = |4 - 5x|$ and $y = 16$

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

- A. The solution set is $\{\square\}$.
  (Use a comma to separate answers as needed. Simplify your answer.)
- B. There is no solution.

66. Find all values of x satisfying the given conditions.

$y = x + \sqrt{x + 4}$ and $y = 2$

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

- A. The solution set is $\{\square\}$. (Use a comma to separate answers as needed.)
- B. There is no solution.

67. Solve the equation.

$|x^2 + x - 1| = 1$

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

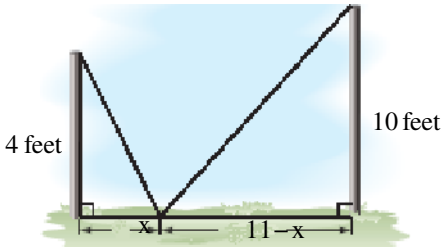
- A. The solution set is $\{\square\}$.
  (Simplify your answer. Use a comma to separate answers as needed.)
- B. There is no real solution.

68. Solve for V.

$$t = \sqrt{\frac{5V}{\pi h}}$$

$V = \square$

69. Two vertical poles of lengths 4 feet and 10 feet stand 11 feet apart. A cable reaches from the top of one pole to some point on the ground between the poles and then to the top of the other pole. Where should this point be located to use 19 feet of cable?



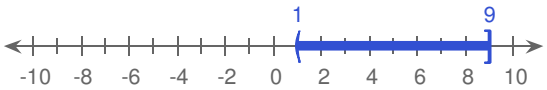
The point should be located ☐ feet from the smaller pole to use 19 feet of cable.
(Round to three decimals places as needed.)

70. Express the interval in set-builder notation and graph the interval on a number line.

$(1,9]$

The solution set in set-builder notation is $\{x \mid \square\}$.
(Type an inequality or a compound inequality.)

Choose the correct graph below.

A.


B.


C.

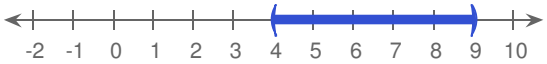

D.

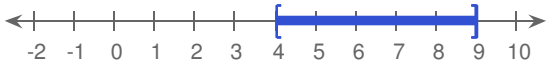

71. Express the interval in set-builder notation and graph the interval on a number line.

$[4,9]$

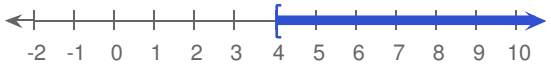
The solution set in set-builder notation is $\{x \mid \square\}$.
(Type an inequality or a compound inequality.)

Choose the correct graph below.

A.


B.


C.


D.


72. Express the interval in set-builder notation and graph the interval on a number line.

$(-4,\infty)$

The solution set in set-builder notation is $\{x \mid \square\}$.
(Use integers or fractions for any numbers in the expression.)

Choose the correct answer below.

A. 

B. 

C. 

D. 

E. 

F. 

73. Use graphs to find the set.

$(-1,3) \cap [0,6]$

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

A. The set is $\square$. (Type your answer in interval notation.)

B. The set is the empty set.

74. Use graphs to find the set.

$(-2,2) \cup [0,5]$

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

A. The set is $\square$.
(Type your answer in interval notation.)

B. The answer is the empty set.

75. Use interval notation to express the solution set and graph the solution set on a number line.

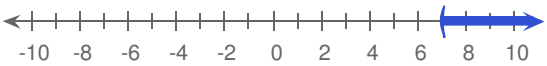
$3x + 8 < 29$

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

- A. The solution is ☐. (Type the solution using interval notation.)
- B. There is no solution.

Choose the correct graph below.

A.


B.


C.


D. The solution set is ∅.

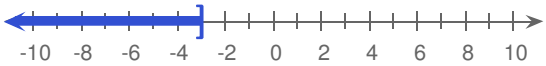
76. Use interval notation to express the solution set and graph the solution set on a number line.

$-3x \geq 9$

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

- A. The solution is ☐. (Type the solution using interval notation.)
- B. There is no solution.

Choose the correct graph of the inequality.

A.


B.


C.


D. The solution set is ∅.

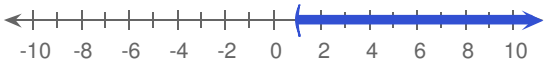
77. Use interval notation to express the solution set and graph the solution set on a number line.

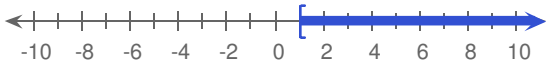
$$3 - (x + 8) \geq 1 - 7x$$

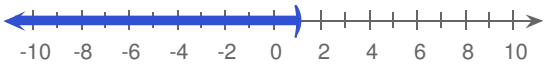
Select the correct choice below and, if necessary, fill in the answer box to complete your choice.

- A. The solution is ■. (Type the solution using interval notation.)
- B. There is no solution.

Choose the correct graph for the solution set found above.

A.


B.


C.


D. The solution set is ∅.

78. Use interval notation to express the solution set and graph the solution set on a number line.

$$\frac{x}{3} - \frac{5}{12} \leq \frac{x}{4} + 1$$

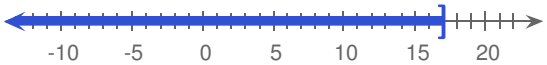
Select the correct choice below and, if necessary, fill in the answer box to complete your choice.

- A. The solution is ■. (Type the solution using interval notation.)
- B. There is no solution.

What is the graph of the solution?

A.


B.


C.


D. The solution set is ∅.

79. Solve the inequality and determine the graph of the solution set. Express the solution set using interval notation.

$$-3 < x + 3 < 9$$

The interval is ☐.

Choose the correct graph below.

○A.


○B.


○C.


○D.


80. Solve the inequality and determine the graph of the solution set. Express the solution set using interval notation.

$$-1 \le \frac{2}{5}x + 1 < 3$$

The interval is ☐.

Choose the correct graph below.

○A.


○B.


○C.


○D.


81. Solve the absolute value inequality.

$$|x| < 11$$

The solution set is ☐. (Type your answer in interval notation.)

82. Solve the inequality, then graph the solution set.

$$|x + 2| \le 9$$

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

- A. The solution set is ■. (Type your answer in interval notation.)
- B. The solution set is $\varnothing$.

Choose the correct graph below.

A.


B.


C.


D. The graph contains no points.

83. Solve the inequality, then graph the solution set.

$$|4x - 4| < 16$$

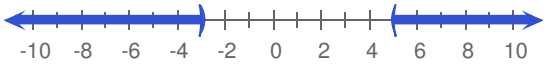
Select the correct choice below and, if necessary, fill in the answer box to complete your choice.

- A. The solution set is ■. (Type your answer in interval notation.)
- B. The solution set is $\varnothing$.

Choose the correct graph below.

A.


B.


C.


D. The graph contains no points.

84. Solve the absolute value inequality.

$$|4(x - 1) + 10| \le 6$$

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

- A. The solution set is ■. (Type your answer in interval notation.)
- B. The solution set is the empty set.

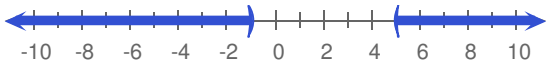
85. Solve the inequality by first rewriting it as an equivalent inequality without absolute value bars. Determine the graph of the solution set. Express the solution set using interval notation.

$$|x - 2| \geq 3$$

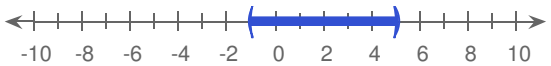
The interval is ☐.
(Type your answer in interval notation.)

Choose the correct graph below.

○A.


○B.


○C.


○D.


86. The percentage, P, of voters who use electronic voting systems, such as optical scans, in national elections can be modeled by the formula

$$P = 2.8x + 38.8$$

where x is the number of years after 1996. In which years will more than 64% of voters use electronic systems?

More than 64% of voters will use electronic systems after the year ☐.

87. The formula for converting Fahrenheit temperature, F, to Celsius, C, is $C = \frac{5}{9}(F - 32)$. If Celsius temperature ranges from $-17°C$ to $7°C$, inclusive, what is the range for the Fahrenheit temperature? Use interval notation to express the range.

[☐°F, ☐°F]
(Round to the nearest tenth as needed.)