May 20, 2021

Parents,

As you may know it is very easy for students to lose math skills over the summer. In an effort to help decrease this "summer slide" in math, students will be issued a few assignments on their mymathlab.com Geometry class from this past school year. These assignments will be short and sweet, but designed to help your student retain what they have learned from this school year.

These summer assignments will count as your student's first homework assignments in the first quarter of the 2021-2022 school year. Also, your student will be given a quiz during the first week of school covering the math skills retaught through these assignments. This quiz will count as the first quiz of the first quarter of the new school year.

If your student forgets his/her username and password, please email his/her teacher.
Kaleb Gardner - kgardner@hbcsni.org
OR….
If your student does not have a mymathlab account yet, please download the PDF of the assignments from the HBCS website.

Kind Regards,

HBCS Math Department

1. Fill in the blank.

   A set of three positive integers a, b, and c that satisfy the equation $a^2 + b^2 = c^2$ is called a(an)_____.

   A set of three positive integers a, b, and c that satisfy the equation $a^2 + b^2 = c^2$ is called a(an) (1) _____

   (1) ○ Pythagorean triple.
       ○ Pythagorean Theorem.

   ID: 9.1.VRC-1

2. Classify the following statement as true or false.

   The Pythagorean Theorem can be used for any triangle.

   Choose the correct answer below.

   ○ False
   ○ True

   ID: 9.1.VRC-2

3. Classify the following statement as true or false.

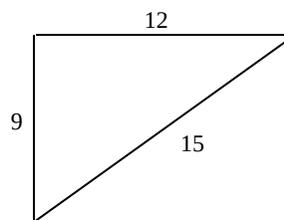   If $c^2 > a^2 + b^2$, where c is the longest side of a triangle, then the triangle is acute._____

   Choose the correct answer below.

   ○ True
   ○ False

   ID: 9.1.VRC-3

4. Classify the following statement as true or false.

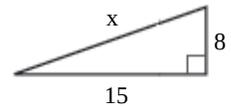   The triangle is a right triangle._____

   Choose the correct answer below.

   ○ False
   ○ True

   ID: 9.1.VRC-4
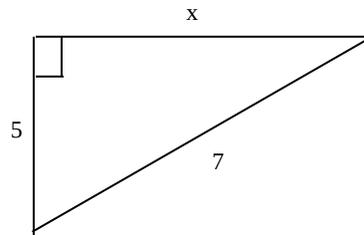
5. What is the value of x in simplest radical form?

x = _____

(Simplify your answer. Type an exact answer, using radicals as needed.)

ID: 9.1.1

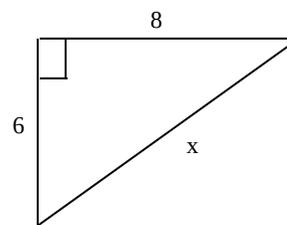6. Find the value of x. If necessary, write your answer in simplest radical form.

x = _____

(Simplify your answer. Type an exact answer, using radicals as needed.)

ID: 9.1.3

7. Find the value of x. If necessary, write your answer in simplest radical form.

x = _____

(Simplify your answer. Type an exact answer, using radicals as needed.)

ID: 9.1.5

8. Simplify the square root.

$$\left(\sqrt{19}\right)^2$$

$\left(\sqrt{19}\right)^2 =$ _____ (Type an integer or a fraction.)

ID: 9.1.67

9. Simplify and rationalize the denominator.

$$\frac{19}{\sqrt{3}}$$

$\dfrac{19}{\sqrt{3}} =$ _____ (Type an exact answer, using radicals as needed.)

ID: 9.1.69

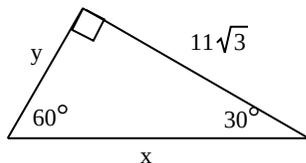10. Use the quotient rule to divide, then simplify, if possible.

$$\sqrt{21} \div \sqrt{7}$$

$\sqrt{21} \div \sqrt{7} = \underline{\hspace{2cm}}$

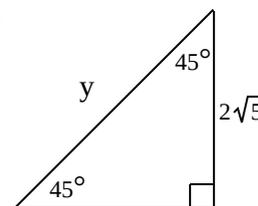(Simplify your answer. Type an exact answer, using radicals as needed.)

   ID: 9.1.63

11. Find the value of each variable. If your answer is not an integer, write it in simplest radical form with the denominator rationalized.

x = _____ and y = _____
(Simplify your answers.)

   ID: 9.2.11

12. Find the value of variable y. If your answer is not an integer, write it in simplest radical form with the denominator rationalized.

y = _____
(Simplify your answer. Type an exact answer, using radicals as needed.)

   ID: 9.2.13

13. Find the value of each variable.

x = _____ and y = _____
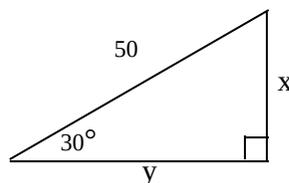(Simplify your answers. Type exact answers, using radicals as needed.)

   ID: 9.2.15

14. Find the value of each variable. If your answer is not an integer, write it in simplest radical form with the denominator rationalized.

$y =$ _____ and $z =$ _____
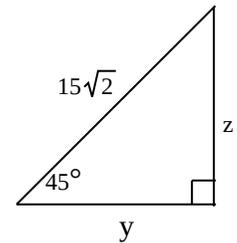(Simplify your answer. Type an exact answer, using radicals as needed.)

ID: 9.2.17

15. Use a calculator to find the value of the trigonometric expression to four decimal places.

sin $69°$

sin $69° \approx$ _____
(Round your answer to four decimal places.)

ID: 9.3.7

16. Use a calculator to find the value of the trigonometric expression to four decimal places.

tan $58°$

tan $58° \approx$ _____
(Type an integer or a decimal. Round to four decimal places as needed.)
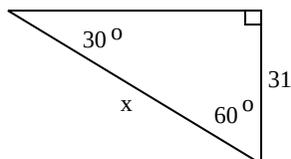
ID: 9.3.9

17. Find the value of x.
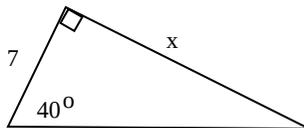
$x \approx$ _____
(Round to the nearest tenth as needed.)

ID: 9.3.21

18. Find the value of x.

$x \approx$ _____
(Round to the nearest tenth as needed.)

ID: 9.3.23

19. Solve the triangle.

$A = 54°$, $\quad B = 47°$, $\quad a = 7$

$C = $ _____ °

$b \approx$ _____
(Do not round until the final answer. Then round to the nearest tenth as needed.)

$c \approx$ _____
(Do not round until the final answer. Then round to the nearest tenth as needed.)

ID: 9.6.9

20. Use the Law of Sines to solve the triangle.

$B = 52°$, $C = 14°$, $b = 35$

$A = $ _____ ° (Round to the nearest degree as needed.)

$a = $ _____ (Round to the nearest tenth as needed.)

$c = $ _____ (Round to the nearest tenth as needed.)

ID: 9.6.11

21. Solve the equation for x.

$-2(4x - 2) = 4x$

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

○ **A.** $x = $ _____ (Type an integer or a simplified fraction.)
○ **B.** The solution is all real numbers.
○ **C.** There is no solution.

ID: A.6.1

22. Solve the equation.

$4(2y - 1) - 2(2y) = 2$

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

○ **A.** $y = $ _____ (Type an integer or a simplified fraction.)
○ **B.** The solution is all real numbers.
○ **C.** There is no solution.

ID: A.6.3

23. Solve the equation.

$$-4y - 33 = 6y + 17$$

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

○ **A.** y = _____ (Type an integer or a simplified fraction.)

○ **B.** The solution is all real numbers.

○ **C.** There is no solution.

   ID: A.6.5

24. Solve the equation for x.

$$0.30x + 0.15(60) = 0.15(126)$$

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

○ **A.** x = _____

○ **B.** The solution is all real numbers.

○ **C.** There is no solution.

   ID: A.6.7

25. Solve.

$$8x - 5 = 3(x + 1) + 5x - 8$$

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

○ **A.** x = _____ (Simplify your answer.)

○ **B.** The solution is all real numbers.

○ **C.** There is no solution.

   ID: A.6.9

26. Solve the equation.

$$\frac{x}{7} - 1 = \frac{x}{9} + 1$$

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

○ **A.** x = _____

○ **B.** The solution is all real numbers.

○ **C.** There is no solution.

   ID: A.6.11

27. Solve the equation for x.

    $4(x + 5) - 7 = 6x - 2(-5 + x)$

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

    ○ **A.** x = _____ (Type an integer or a simplified fraction.)

    ○ **B.** The solution is all real numbers.

    ○ **C.** There is no solution.

    ID: A.6.13

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28. Solve the inequality. Graph the solution set.

    $x - 4 \geq -5$

    The solution set is $\{x \mid$ _____ $\}$.
    (Type an inequality. Use integers or fractions for any numbers in the expression.)

    Choose the correct graph below.

    ○ **A.**

    ○ **B.**

    ○ **C.**

    ○ **D.**

    ID: A.7.1

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29. Solve the inequality. Graph the solution set.

    $5x - 8 > 4x - 9$

    The solution set is $\{x \mid$ _____ $\}$.
    (Type an inequality. Use integers or fractions for any numbers in the expression.)

    Choose the correct graph below.

    ○ **A.**

    ○ **B.**

    ○ **C.**
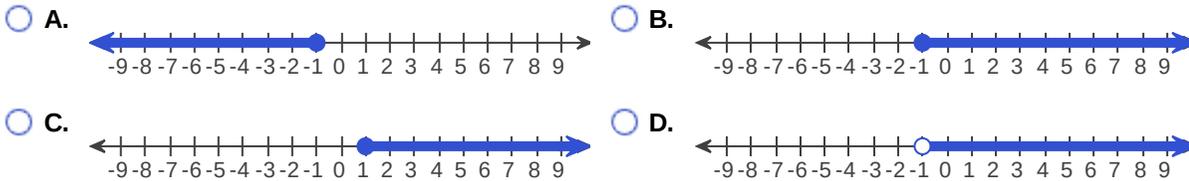

    ○ **D.**

    ID: A.7.3

30. Solve the inequality. Graph the solution set.

    $-9x \geq 45$

The solution set is $\left\{x \mid \underline{\hspace{3cm}}\right\}$.
(Type an inequality. Use integers or fractions for any numbers in the expression.)

Choose the correct graph below.

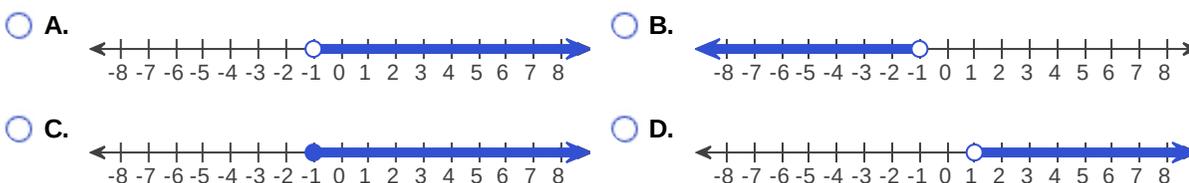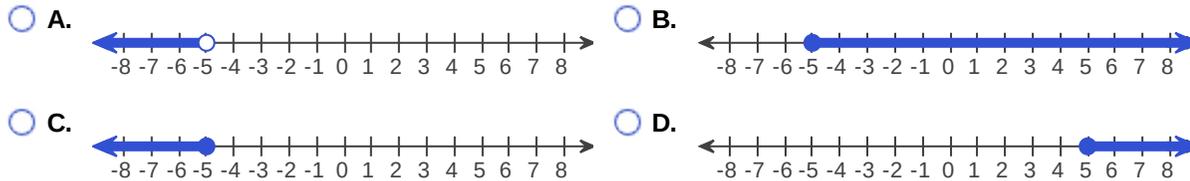   ○ **A.**
-8 -7 -6 -5 -4 -3 -2 -1 0 1 2 3 4 5 6 7 8

   ○ **B.**
-8 -7 -6 -5 -4 -3 -2 -1 0 1 2 3 4 5 6 7 8

   ○ **C.**
-8 -7 -6 -5 -4 -3 -2 -1 0 1 2 3 4 5 6 7 8

   ○ **D.**
-8 -7 -6 -5 -4 -3 -2 -1 0 1 2 3 4 5 6 7 8

   ID: A.7.5

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31. Solve the inequality.

    $6(x + 1) - 5x \geq -7$

The solution set is $\left\{x \mid \underline{\hspace{3cm}}\right\}$.

   ID: A.7.7

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32. Solve the inequality.

    $2x - 5 < 9x + 30$

The solution set is $\left\{x \mid \underline{\hspace{3cm}}\right\}$.

   ID: A.7.9

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33. Solve the inequality.

    $-9x + 2 > 5(2 - x)$

$\left\{x \mid \underline{\hspace{3cm}}\right\}$ (Type an inequality.)

   ID: A.7.11

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34. Solve the inequality.

    $3(x + 6) - 18 > -2(x - 7) + 6$

The solution set is $\left\{x \mid \underline{\hspace{3cm}}\right\}$. (Type an inequality.)

   ID: A.7.13

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35. Solve the inequality.

$$\frac{1}{3}(x - 5) < \frac{1}{8}(3x - 1)$$

$\left\{ x \mid \text{_____} \right\}$ (Type an inequality.)

ID: A.7.15

36. For the following equation, find three ordered pair solutions by completing the table. Then use the ordered pairs to graph the equation.

$y = 6x$

Find three ordered pair solutions of the given equation.

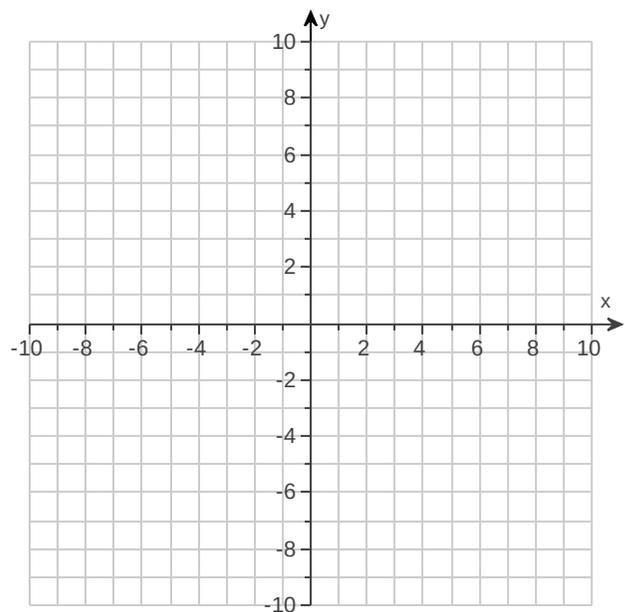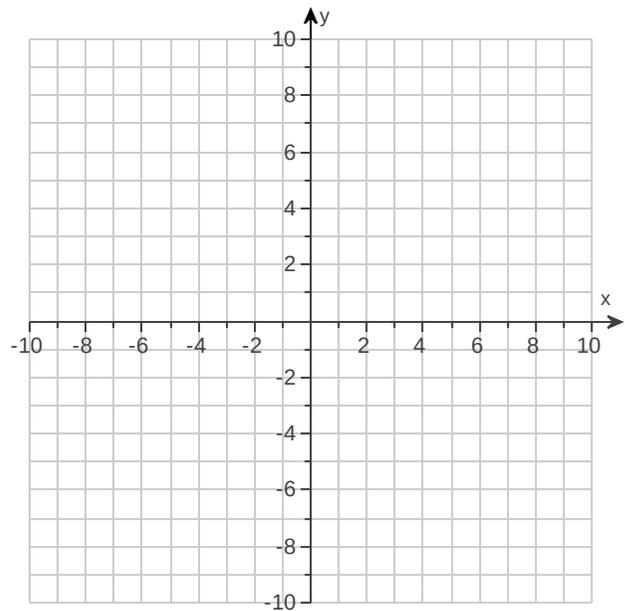| x	y
0	
− 1	
1	

Use the graphing tool to graph the line.

ID: A.10.1

37. For the following equation, find three ordered pair solutions by completing the table. Then use the ordered pairs to graph the equation.

$y = -2x + 6$

Find three ordered pair solutions of the given equation.

x	y
0	
1	
2	

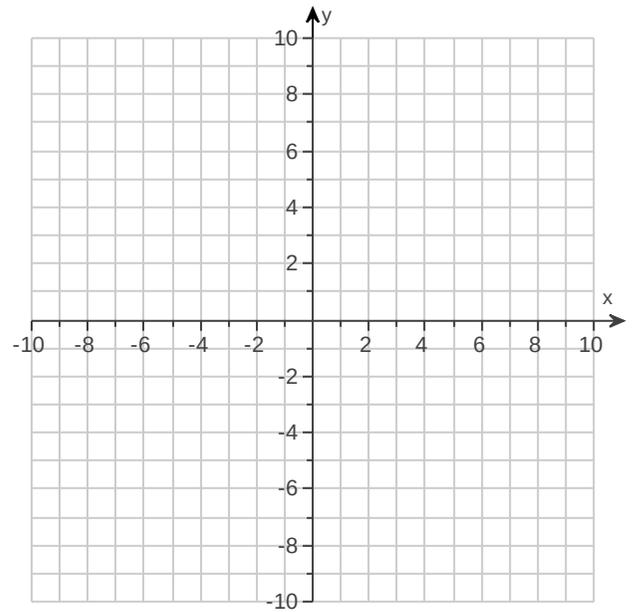Use the graphing tool to graph the line.

ID: A.10.3

38. Graph the linear equation.

    $x - y = -6$

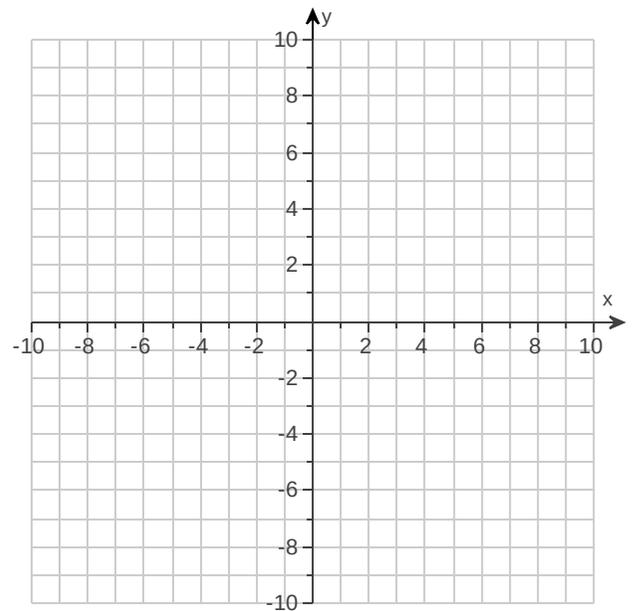   Use the graphing tool to graph the line.

    ID: A.10.5

39. Graph the linear equation.

    $x - 4y = 8$

    Use the graphing tool to graph the equation.

    ID: A.10.7

40. Graph the linear equation.

   $x = 3$

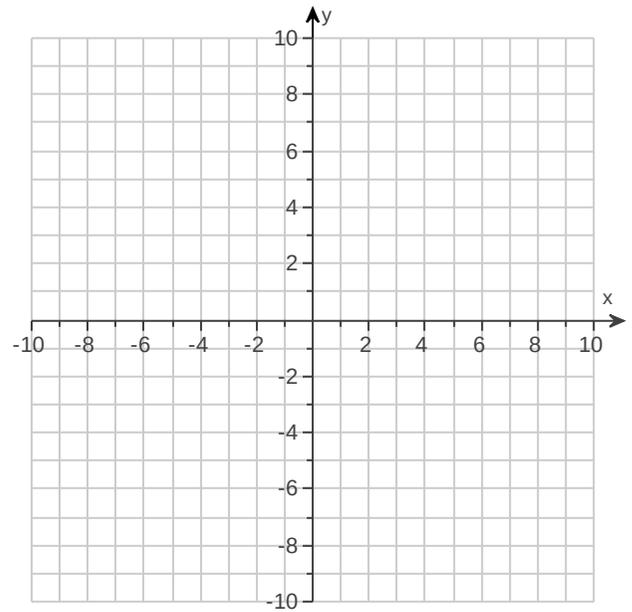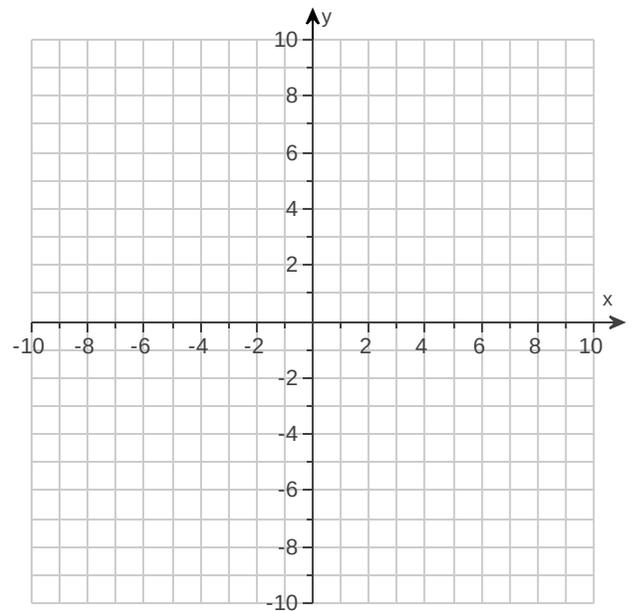   Use the graphing tool to graph the linear equation.

   ID: A.10.9

41. Graph the linear equation.

   $y = 2$

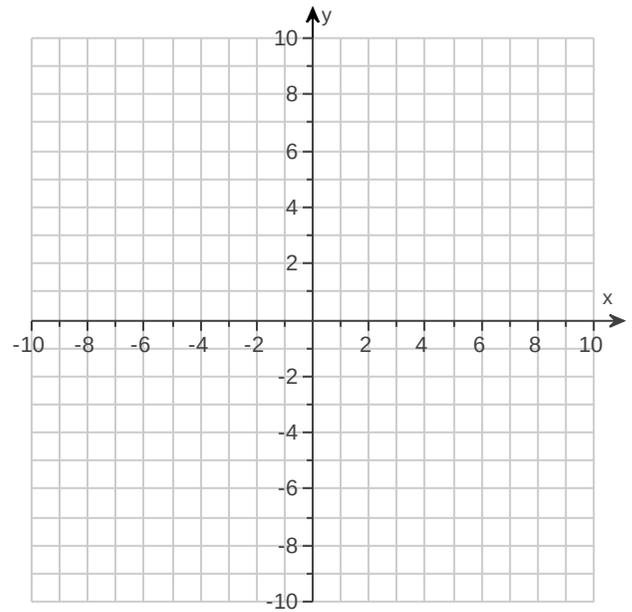   Use the graphing tool to graph the linear equation.

   ID: A.10.11

42. Graph the linear equation.
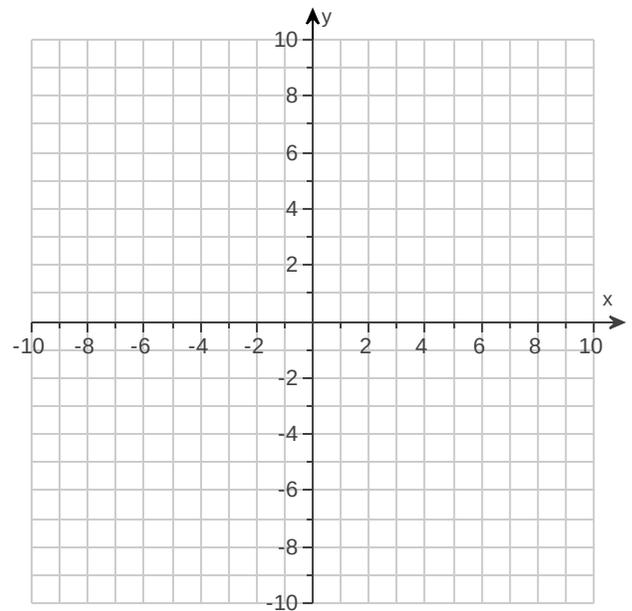
$x = -7y$

Use the graphing tool to graph the equation.

ID: A.10.13

43. Graph the linear equation.

$y = \dfrac{1}{3}x + 4$

Use the graphing tool to graph the linear equation.

ID: A.10.15

44. Use the substitution method to solve the following system of equations.

$$\begin{cases} x + y = 21 \\ \quad\ y = 6x \end{cases}$$

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

○ **A.** There is one solution. The solution of the system is _____ .
   (Simplify your answer. Type an ordered pair.)

○ **B.** The solution set of the system is {(x,y)| x + y = 21}.

○ **C.** The solution set is ∅.

ID: A.11.1

45. Use the substitution method to solve the following system of equations.

$$\begin{cases} 3x - \ y = 27 \\ 7x + 2y = 24 \end{cases}$$

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

○ **A.** There is one solution. The solution of the system is _____ .
   (Simplify your answer. Type an ordered pair.)

○ **B.** The solution set of the system is {(x,y)| 3x − y = 27}.

○ **C.** The solution set is ∅.

ID: A.11.3

46. Solve the following system of equations by substitution or elimination.

$$\begin{cases} \quad\quad x = 5y + 2 \\ 3x - 15y = 6 \end{cases}$$

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

○ **A.** There is one solution. The solution of the system is _____ .
   (Simplify your answer. Type an ordered pair.)

○ **B.** The solution set of the system is {(x,y)| x = 5y + 2}.

○ **C.** The solution set is ∅.

ID: A.11.15

47. Evaluate the expression.

$$\left(\frac{1}{4}\right)^2$$

$$\left(\frac{1}{4}\right)^2 = \underline{\hspace{3cm}}$$

ID: A.12.5

48. Evaluate the expression with the given replacement value.

$$\frac{7z^2}{8} \text{ when } z = -3$$

$$\frac{7z^2}{8} = \underline{\hspace{3cm}} \quad \text{(Type an integer or a fraction.)}$$

ID: A.12.7

49. Use the product rule to simplify the expression. Write the result using exponents.

$$\left(b^{14}c^3\right)\left(b^9c\right)$$

$$\left(b^{14}c^3\right)\left(b^9c\right) = \underline{\hspace{3cm}}$$

ID: A.12.11

50. Use the power rule and the power of a product rule to simplify the expression.

$$\left(x^3y^5\right)^7$$

$$\left(x^3y^5\right)^7 = \underline{\hspace{3cm}}$$

ID: A.12.17

51. Use the power rule and the power of a product or quotient rule to simplify the expression. Assume that all bases are not equal to 0.

$$\left(\frac{-2uv}{w^6}\right)^2$$

$$\left(\frac{-2uv}{w^6}\right)^2 = \underline{\hspace{3cm}}$$

ID: A.12.21

52. Simplify the expression. Assume that all bases are not equal to 0.

$(-3x)^0$

$(-3x)^0 =$ _____

ID: A.12.27

53. Simplify the expression. Assume that all bases are not equal to 0.

$2^0 + 3^0 + y^0$

$2^0 + 3^0 + y^0 =$ _____

ID: A.12.31

54. Multiply.

$(a+4)(a-2)$

$(a+4)(a-2) =$ _____

ID: A.13.1

55. Multiply.

$(4a-4)\left(4a^2 - 8a + 2\right)$

$(4a-4)\left(4a^2 - 8a + 2\right) =$ _____ (Simplify your answer.)

ID: A.13.3

56. Find the following product.

$(2xy + y)^2$

$(2xy + y)^2 =$ _____

ID: A.13.5

57. Use FOIL to multiply.

$(x+9)(x+7)$

$(x+9)(x+7) =$ _____ (Simplify your answer.)

ID: A.13.7

58. Find the product using the FOIL method.

$(x - 9)(x + 4)$

$(x - 9)(x + 4) =$ _____

ID: A.13.9

59. Multiply using the FOIL method.

$(y - 9)(7y - 3)$

$(y - 9)(7y - 3) =$ _____

ID: A.13.11

60. Multiply.

$(3a - 4)^2$

$(3a - 4)^2 =$ _____

ID: A.13.13

61. Multiply.

$(7x + 6)^2$

$(7x + 6)^2 =$ _____ (Simplify your answer.)

ID: A.13.15

62. Multiply.

$(a - 8)(a + 8)$

$(a - 8)(a + 8) =$ _____ (Simplify your answer.)

ID: A.13.17

63. Multiply.

$(10x + y)(10x - y)$

$(10x + y)(10x - y) =$ _____

ID: A.13.19

64. Multiply.

$$\left(\frac{8}{5}a^2 - 8\right)\left(\frac{8}{5}a^2 + 8\right)$$

$\left(\frac{8}{5}a^2 - 8\right)\left(\frac{8}{5}a^2 + 8\right)$ = _____

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

ID: A.13.21

65. Multiply.

$(5b + 3)(9b - 8)$

$(5b + 3)(9b - 8)$ = _____   (Simplify your answer.)

ID: A.13.23

66. Multiply.

$(3x - 4)(3x + 4)$

$(3x - 4)(3x + 4)$ = _____   (Simplify your answer.)

ID: A.13.25

67. Find the product.

$(5x - 8y)^2$

$(5x - 8y)^2$ = _____

ID: A.13.27

68. Find the square root.

$$\sqrt{\frac{1}{36}}$$

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

○ **A.** $\sqrt{\frac{1}{36}}$ = _____

○ **B.** The root is not a real number.

ID: A.14.3

69. Find the square root that is a real number.

$$\sqrt{-9}$$

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

○ **A.** $\sqrt{-9} = $ _____

○ **B.** The square root is not a real number.

ID: A.14.7

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70. Find the square root.

$$-\sqrt{49}$$

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

○ **A.** $-\sqrt{49} = $ _____

○ **B.** The root is not a real number.

ID: A.14.9

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71. Use the product rule to simplify the radical.

$$\sqrt{75}$$

$\sqrt{75} = $ _____
(Simplify your answer. Type an exact answer, using radicals as needed.)

ID: A.14.15

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72. Use the product rule to simplify the radical.

$$-2\sqrt{125}$$

$-2\sqrt{125} = $ _____
(Simplify your answer. Type an exact answer, using radicals as needed.)

ID: A.14.21

73. Use the quotient rule and the product rule to simplify the radical.

$$\sqrt{\dfrac{49}{36}}$$

$\sqrt{\dfrac{49}{36}} = \underline{\hspace{3cm}}$

(Simplify your answer. Type an exact answer, using radicals as needed.)

ID: A.14.23

74. Solve the equation.

$$(4x - 8)(3x + 6) = 0$$

x = $\underline{\hspace{3cm}}$

(Use a comma to separate answers as needed.)

ID: A.15.1

75. Solve the equation.

$$x^2 + 6x - 16 = 0$$

x = $\underline{\hspace{3cm}}$

(Use a comma to separate answers as needed.)

ID: A.15.3

76. Solve the equation.

$$x^2 - 9x = 0$$

x = $\underline{\hspace{3cm}}$

(Use a comma to separate answers as needed.)

ID: A.15.5

77. Solve the equation.

$$x^2 = 25$$

x = $\underline{\hspace{3cm}}$

(Use a comma to separate answers as needed.)

ID: A.15.7

78. Solve the equation by using the square root property. Express all radicals in simplest form.

$$z^2 = -9$$

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

○ **A.** $z =$ _____
(Simplify your answer. Type an exact answer, using radicals as needed. Use a comma to separate answers as needed.)

○ **B.** The solution is not a real number.

ID: A.16.7

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79. Use the square root property to solve the quadratic equation.

$$7x^2 = 11$$

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

○ **A.** $x =$ _____
(Simplify your answer. Rationalize all denominators. Use integers or fractions for any numbers in the expression. Use a comma to separate answers as needed.)

○ **B.** There is no solution.

ID: A.16.9

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80. Use the square root property to solve the quadratic equation.

$$x^2 - 5 = 0$$

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

○ **A.** $x =$ _____
(Simplify your answer. Type an exact answer, using radicals as needed. Use a comma to separate answers as needed.)

○ **B.** There is no real solution.

ID: A.16.11

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81. Use the square root property to solve the quadratic equation.

$$(x - 3)^2 = 9$$

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

○ **A.** $x =$ _____
(Simplify your answers. Type exact answers, using radicals as needed. Use a comma to separate answers.)

○ **B.** The solution is not a real number.

ID: A.16.13

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82. Solve using the square root property.

$$(x + 4)^2 = 6$$

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

○ **A.** The solution is x = _____ .
   (Simplify your answer. Type an exact answer using radicals as needed. Use a comma to separate answers as needed.)

○ **B.** There is no solution.

ID: A.16.15