Student: _____	**Instructor:** Alfredo Alvarez	**Assignment:** Math 0410 Homework147alekslittle
Date: _____	**Course:** Math 0410 Spring 2018	

1. Insert < or > between the pair of integers to make the statement true.

$0 \quad -1$

$0 \square -1$

2. Simplify.

$|-12|$

$|-12| =$ ☐ (Simplify your answer.)

3. Evaluate $2x - y$ for the given replacement values.

$x = 5$ and $y = -9$

$2x - y =$ ☐

4. Evaluate.

-8^2

$-8^2 =$ ☐

5. Find the quotient.

$$\frac{-13}{0}$$

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

- **A.** $\frac{-13}{0} =$ _____
- **B.** The answer is undefined.

6. Evaluate.

$(-3)^2$

$(-3)^2 =$ ☐

7. Multiply.

$(-2)^3$

$(-2)^3 =$ ☐

8. Simplify.

$(-10) + 8 \div 2$

$(-10) + 8 \div 2 =$ ☐

9. Simplify.

$8 + 5 \cdot 3 - 13$

$8 + 5 \cdot 3 - 13 =$ ☐

10. Simplify.

$3(-8) - (-14)$

$3(-8) - (-14) =$ ☐

11. Simplify.

$|29 - 53| \div 3$

$|29 - 53| \div 3 =$ ☐

12. Simplify.

$(-17 - 37) \div 18 - 28$

$(-17 - 37) \div 18 - 28 =$ ☐

13. Simplify.

$9(-10) \div [4(-9) - 7(-5)]$

The answer is ☐.

14. Evaluate the following expression for $x = -3$, $y = 4$, and $z = -1$.

$4x - 3y - 12z$

$4x - 3y - 12z =$ ☐

15. Evaluate the following expression for $x = -2$ and $y = 6$.

$x^2 - y$

$x^2 - y =$ ☐

16. Solve. Check your solution.

$d - 7 = -12$

The solution is $d =$ ☐.

17. Solve.

$-3z = 36$

The solution is $z =$ ☐.

18. Solve.

$$\frac{n}{3} = -6$$

The solution is n = [ ].

19. Solve.

$$-8x = 0$$

The solution is x = [ ].

20. Solve.

$$\frac{x}{-8} = -7$$

The solution is x = [ ].

21. Multiply.

$$3(a-6)$$

$3(a-6)$ = [ ] (Simplify your answer.)

22. Multiply.

$$-2(5z+3)$$

$-2(5z+3)$ = [ ]

23. Simplify the expression. First use the distributive property to multiply and remove parentheses.

$$2(x+2)-2$$

$2(x+2)-2$ = [ ]

24. Simplify the expression. First use the distributive property to multiply and remove parentheses.

$$-5(7n-4)+2n$$

$-5(7n-4)+2n$ = [ ]

25. Simplify the expression.

$$15y-20y$$

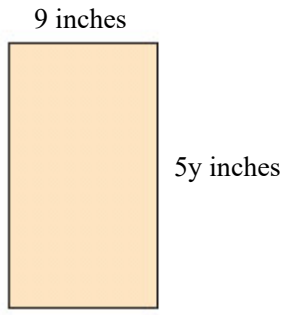
$15y-20y$ = [ ]

26. Simplify the expression.

$6y - 3(y - 3) + 4$

$6y - 3(y - 3) + 4 =$ ☐

27. Find the area of the rectangle.



The area is ☐ sq in.

28. Find the area of a rectangular movie screen that is 46 feet long and 36 feet high. Use A = LW.

The area is ☐ square feet.

29. A decorator wishes to put a wallpaper border around a rectangular room that measures 21 feet by 23 feet. Find the room's perimeter. Use P = 2L + 2W.

The perimeter of the room is ☐ feet.

30. Solve. First combine any like terms on each side of the equation.

$3w - 5w = 14$

$w =$ ☐

31. Solve the equation. First combine any like terms on each side of the equation.

$42 = t + 6t$

The solution is $t =$ ☐.

32. Solve the equation. First combine any like terms on each side of the equation.

$-4x - 4x = 29 - 5$

The solution is $x =$ ☐.

33. Solve and check the solution.

$2(4x - 3) = 9x$

$x =$ ☐

34. Solve. First multiply to remove parentheses.

$49y = 8(6y - 5)$

The solution is y = ☐.

35. Solve the equation.

$3(y - 5) = y - 15$

y = ☐

36. Solve the equation.

$3(7x - 2) = 22x$

x = ☐

37. Multiply. Write the product in simplest form.

$-\frac{4}{7} \cdot \frac{3}{8}$

$-\frac{4}{7} \cdot \frac{3}{8} =$ ☐

38. Divide.

$\frac{4}{7} \div \frac{13}{14}$

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

○ **A.** $\frac{4}{7} \div \frac{13}{14} =$ _____ (Type an integer or a simplified fraction.)

○ **B.** The answer is undefined.

39. Add and simplify.

$\frac{1}{18} + \frac{11}{18}$

$\frac{1}{18} + \frac{11}{18} =$ ☐ (Type an integer or a simplified fraction.)

40. Add and simplify.

$\frac{1}{5} + \frac{7}{10}$

$\frac{1}{5} + \frac{7}{10} =$ ☐ (Type an integer or a fraction.)

41. Subtract.

$$\frac{1}{4} - \frac{7}{10}$$

$\frac{1}{4} - \frac{7}{10} =$ ☐ (Type an integer or a fraction.)

42. Simplify the complex fraction.

$$\frac{\frac{5}{7}}{\frac{5}{8}}$$

$\frac{\frac{5}{7}}{\frac{5}{8}} =$ ☐ (Type an integer or a simplified fraction.)

43. Solve the equation and check the solution.

$-35 = \frac{5}{17}x$

$x =$ ☐

44. Solve the equation.

$$\frac{m}{6} = \frac{m}{5} + 2$$

$m =$ ☐ (Type an integer or a fraction. Simplify your answer.)

45. Multiply.

-6.456×1000

$-6.456 \times 1000 =$ ☐ (Type an integer or a decimal.)

46. Divide.

$$\frac{99.678}{100}$$

$\frac{99.678}{100} =$ ☐

47. Solve.

$3.4x - 48 = 1.8x + 8$

$x =$ ☐ (Type an integer or a decimal.)

48. Solve the proportion.

$$\frac{5}{8} = \frac{x}{16}$$

x = [ ] (Type an integer or a simplified fraction.)

49. A 13-oz iced tea at a certain restaurant has 130 calories. How many calories are there in a 20-oz iced tea?

The 20-oz iced tea has [ ] calories.

50. Write the percent as a decimal.

77.8%

77.8% = [ ]

51. Write the decimal as a percent.

0.21

0.21 = [ ]% (Simplify your answer. Type an integer or a decimal.)

52. Write the fraction as a percent.

$$\frac{7}{25}$$

$\frac{7}{25}$ = [ ]% (Simplify your answer.)

53. Write the percent as a decimal and a fraction.
People take aspirin for a variety of reasons. The most common use of aspirin is to prevent heart disease, accounting for 32% of all aspirin use.

32% written as a decimal is [ ].

32% written as a fraction is [ ]. (Type an integer or a simplified fraction.)

54. A stereo normally priced at $589 is on sale for 25% off. Find the discount and the sale price.

The discount is $[ ].

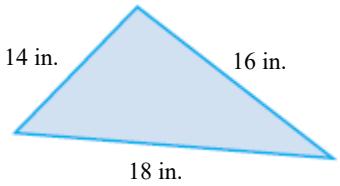
The sale price is $[ ].

55. A company borrows $60,000 for 10 years at a simple interest rate of 7.5%. Find the interest paid on the loan and the total amount paid.

The interest paid on the loan is $[ ].

The total amount paid is $[ ].

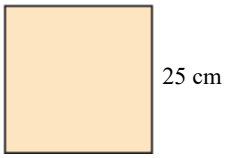
56. Find the perimeter of the following figure.



The perimeter is ____ (1) ____

(1) ○ in.
○ sq. in.

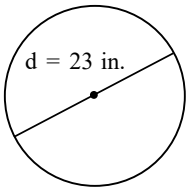
57. Find the perimeter of the regular polygon shown to the right.



Perimeter = ____ (1) ____

(1) ○ cm
○ sq cm

58. Find the area of the given geometric figure. If the figure is a circle, give an exact area and then use 3.14 as an approximation for π to approximate the area.



The exact area of the circle is ____ (1) ____
(Simplify your answer. Type an exact answer in terms of π.)

The approximate area of the circle is ____ (2) ____
(Simplify your answer. Type an integer or decimal rounded to the nearest thousandth as needed.)

(1) ○ sq in.
○ cu in.
○ in.

(2) ○ cu in.
○ in.
○ sq in.

59. Solve the equation for x.

$-7(x+8)+4=-52$

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

○ **A.** x = ____ (Simplify your answer. Type an integer or a fraction.)
○ **B.** The solution is all real numbers.
○ **C.** There is no solution.

60. Solve the equation for x.

$3(5x - 3) = 15x - 9$

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

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

61. Solve the equation.

$$\frac{x}{7} + 3 = \frac{x}{7}$$

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.

62. Solve the equation for y.

$5x + y = 10$

$y =$ ☐

63. Solve the formula for the specified variable.

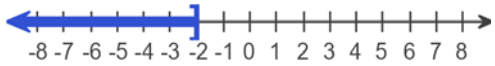
$W = X + Xyz$ for z

$z =$ ☐

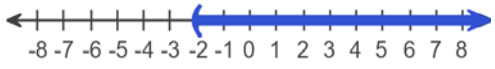
64. Solve the inequality. Graph the solution set and write it in interval notation.

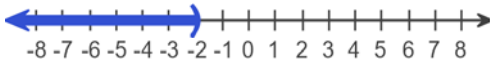
$2x < -4$

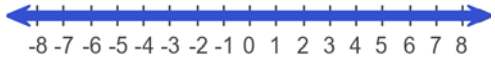
Choose the correct graph below.

- **A.** 

- **B.** 

- **C.** 

- **D.** 

- **E.** 

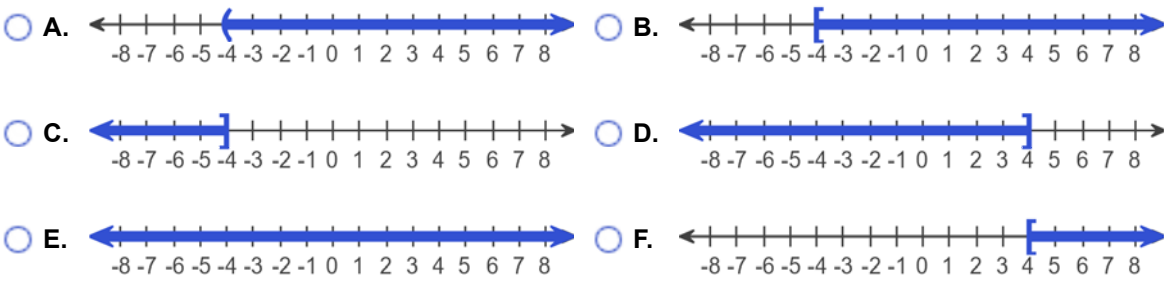
- **F.** 

The solution to the inequality $2x < -4$ is ☐.
(Type your answer in interval notation.)

65. Solve the inequality. Graph the solution set and write it in interval notation.

$-7x \le 28$

Choose the correct graph below.



The solution to the inequality $-7x \le 28$ is [ ].
(Type your answer in interval notation.)

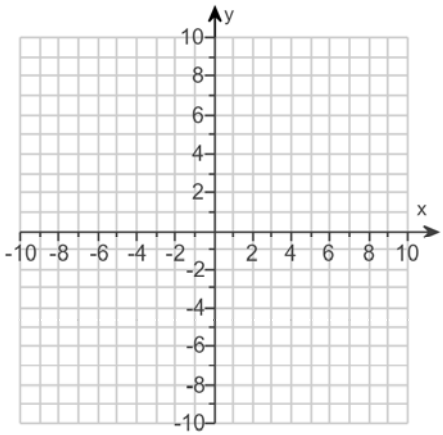
66. Solve the inequality.

$-4x + 2 \ge 2(5 - x)$

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

67. Plot the ordered pair $(-4, -5)$. State in which quadrant or on which axis the point lies.

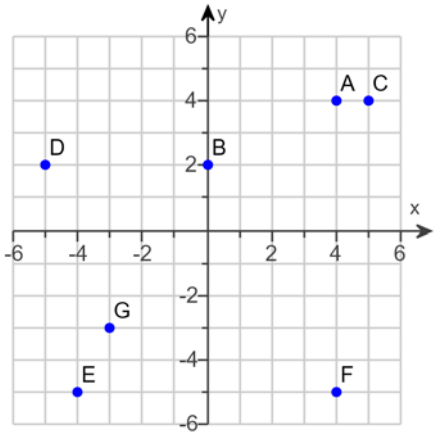
Plot the ordered pair on the graph to the right.



In which quadrant, or on which axis, does the point lie?

- IV
- III
- on the y-axis
- II
- on the x-axis
- I

68. Find the x- and y-coordinates of point G.



The coordinates of G are [ ].
(Type an ordered pair.)

69. Complete the table of ordered pairs to the right for the equation. Then plot the ordered pair solutions.

$$y = \frac{1}{6}x + 7$$

x	y
0	
6	
	0

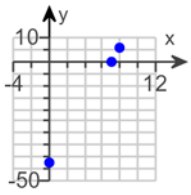
Complete the table.

x	y
0	
6	
	0

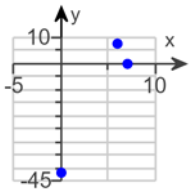
(Type integers or simplified fractions.)

Plot the ordered pair solutions. Choose from the graphs below.

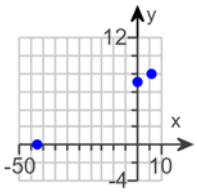
A.



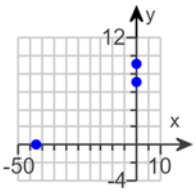
B.



C.



D.



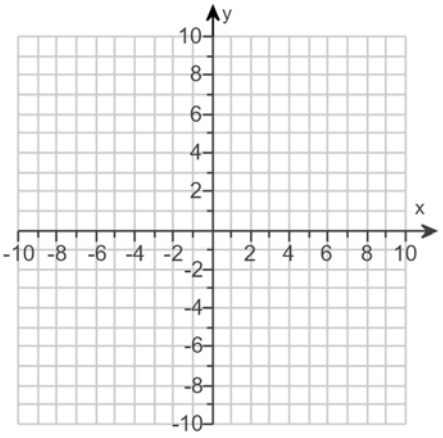
70. For the following equation, find three ordered pair solutions by completing the table. Then use the ordered pairs to graph the equation.

$$y = -4x + 4$$

Find three ordered pair solutions of the given equation.

x	y
0	
1	
2	

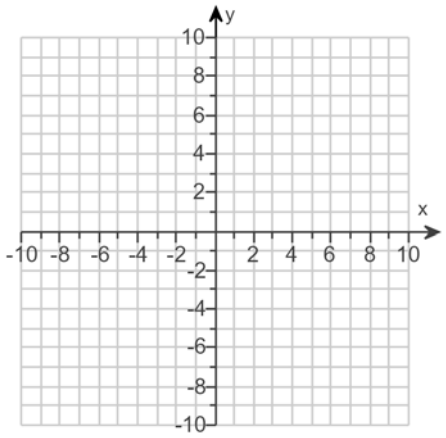
Use the graphing tool to graph the line.



71. Graph the linear equation.

$y = 9$

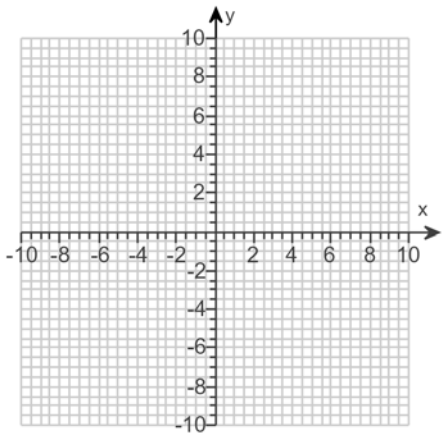
Use the graphing tool to graph the linear equation.



72. Graph the linear equation.

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

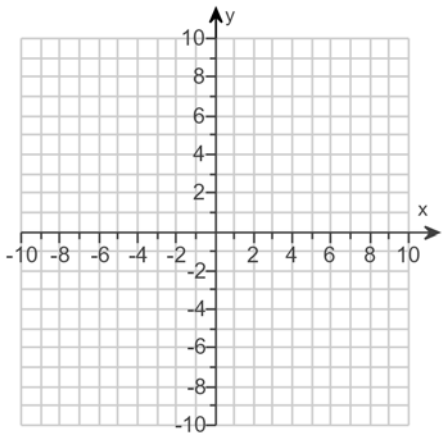
Use the graphing tool to graph the linear equation.



73. Plot the intercepts to graph the equation.

$4x - 6y = 12$

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



74. Find the slope of the line that goes through the given points.

$(9, -6)$ and $(8, -3)$

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.

75. Find the slope of the line that goes through the given points.

$(-3, -8)$ and $(4, -2)$

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

- **A.** The slope is _____. (Simplify your answer.)
- **B.** The slope is undefined.

76. Find the slope of the line.

$y = -5x + 5$

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

- **A.** The slope is _____.
- **B.** The slope is undefined.

77. Find the slope of the line.

$8x + y = 8$

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

- **A.** The slope is _____.(Simplify your answer. Type an integer or a fraction.)
- **B.** The slope is undefined.

78. Find the slope of the line.

$6x - 7y = 42$

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

- **A.** The slope of the line is _____. (Simplify your answer.)
- **B.** The slope of the line is undefined.

79. Find the slope-intercept form of the line whose slope is 7 and that passes through the point $(-6,8)$.

The equation of the line is [ ].
(Type your answer in slope-intercept form.)

80. Find the value of $x^2 - 3x + 2$ for the given value of x.

$x = -3$

The value of the polynomial for $x = -3$ is [ ]. (Simplify your answer.)

81. Determine whether each ordered pair is a solution of the system of linear equations.

$$\begin{cases} 3x - y = 9 \\ x + 2y = 10 \end{cases}$$

a. (4,3)
b. (5,6)

a. Is (4,3) a solution?

- Yes
- No

b. Is (5,6) a solution?

- No
- Yes

82. Solve the system of equations using the substitution method.

$$\begin{cases} x + y = 15 \\ x = 4y \end{cases}$$

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

- **A.** The solution of the system is _____. (Type an ordered pair.)
- **B.** There are infinitely many solutions; $\{(x,y)|x + y = 15\}$ or $\{(x,y)|x = 4y\}$.
- **C.** There is no solution; {} or ∅.

83. Solve the system of equations by the substitution method.

$$\begin{cases} y = 4x + 1 \\ 2y - 3x = 12 \end{cases}$$

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

- **A.** The solution is _____. (Simplify your answer. Type an ordered pair.)
- **B.** There are infinitely many solutions; $\{(x,y)|y = 4x + 1\}$ or $\{(x,y)|2y - 3x = 12\}$.
- **C.** There is no solution; {} or ∅.

84. Solve the system of equations by the addition method.

$$\begin{cases} 6x - y = 22 \\ 3x + y = 14 \end{cases}$$

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

- **A.** The solution is _____. (Simplify your answer. Type an ordered pair.)
- **B.** There are infinitely many solutions; $\{(x,y)|6x - y = 22\}$ or $\{(x,y)|3x + y = 14\}$.
- **C.** There is no solution; {} or ∅.

85. Use the product rule to simplify the expression.

$x^2 \cdot x^5$

$x^2 \cdot x^5 =$ ☐

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

$(-3p^3q^4)(6pq^2)$

$(-3p^3q^4)(6pq^2) =$ ☐

87. Use the product rule to simplify the expression. Write the results using exponents.

$(3z^{12})(-6z^6)(z^2)$

$(3z^{12})(-6z^6)(z^2) =$ ☐

88. Use the power rule to simplify the expression.

$(z^5)^7$

$(z^5)^7 =$ ☐
(Simplify your answer. Type exponential notation with positive exponents.)

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

$(3c^5)^3$

$(3c^5)^3 =$ ☐

90. Use the power rule and the power of a product or quotient rule to simplify the expression.

$(-5a^3b^4c)^2$

$(-5a^3b^4c)^2 =$ ☐ (Type your answer using exponential notation.)

91. Use the power rule, the power of a product rule, and the power of a quotient rule to simplify the expression.

$\left(\dfrac{-9x^5z^5}{y^4}\right)^3$

$\left(\dfrac{-9x^5z^5}{y^4}\right)^3 =$ ☐

92. Simplify the expression.

$b^4b^5b^6$

$b^4b^5b^6 =$ ☐

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

$$\frac{5x^5y^2z}{x^3yz}$$

$\frac{5x^5y^2z}{x^3yz} =$ ☐

94. If $P(x) = x^2 + x + 5$, find $P(6)$.

$P(6) =$ ☐

95. If $Q(x) = 4x^2 - 1$, find $Q(-8)$.

$Q(-8) =$ ☐

96. Simplify the following expression by combining the like terms.

$-5a^2 - 6ab + 5b^2 - 8a^2 - 9ab + 6b^2$

$-5a^2 - 6ab + 5b^2 - 8a^2 - 9ab + 6b^2 =$ ☐

97. Subtract.

$\left(4y^2 + 6y - 2\right) - (-3y + 8)$

$\left(4y^2 + 6y - 2\right) - (-3y + 8) =$ ☐ (Simplify your answer.)

98. Add.

$\left(-8y^2 - 4y\right) + \left(9y^2 + y - 2\right)$

$\left(-8y^2 - 4y\right) + \left(9y^2 + y - 2\right) =$ ☐ (Do not factor.)

99. Add the polynomials.

$(9x^2 + 8x) + (-7x^2 - 6x - 9)$

$(9x^2 + 8x) + (-7x^2 - 6x - 9) =$ ☐ (Simplify your answer. Do not factor.)

100. Multiply.

$3x(2x^2 - 5x + 5)$

$3x(2x^2 - 5x + 5) =$ ☐ (Simplify your answer.)

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101. Find the following product.

$(6y - 1)^2$

$(6y - 1)^2 =$ ☐

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102. Multiply.

$(x + 6)(x^3 - 3x + 4)$

$(x + 6)(x^3 - 3x + 4) =$ ☐

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103. Multiply.

$-4x(x^2 + 6x - 7)$

$-4x(x^2 + 6x - 7) =$ ☐ (Simplify your answer.)

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104. Multiply.

$(a + 3)(a^2 - 8a + 8)$

$(a + 3)(a^2 - 8a + 8) =$ ☐

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105. Multiply.

$(9x + 5)(6x^2 + 7x + 3)$

$(9x + 5)(6x^2 + 7x + 3) =$ ☐
(Do not factor. Simplify your answer.)

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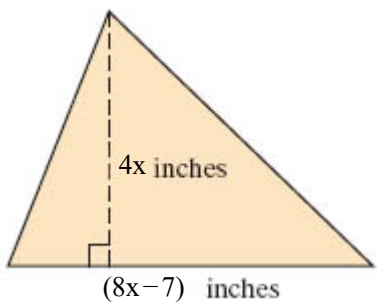
106. Find the area of the triangle.



☐ sq in.

---

107. Use FOIL to multiply.

$(3y - 9)(y + 4)$

$(3y - 9)(y + 4) =$ [ ] (Simplify your answer.)

108. Multiply using the FOIL method.

$2(y - 5)(4y - 1)$

$2(y - 5)(4y - 1) =$ [ ]

109. Multiply.

$(a - 9)(a + 9)$

$(a - 9)(a + 9) =$ [ ] (Simplify your answer.)

110. Use a special product to multiply, if possible.

$(5a - 4c)^2$

Choose the expression equivalent to $(5a - 4c)^2$.

- **A.** $25a^2 + 40ac + 16c^2$
- **B.** $25a^2 - 16c^2$
- **C.** $25a^2 - 40ac + 16c^2$
- **D.** $25a^2 + 16c^2$
- **E.** none of these

111. Simplify the following expression.

2^{-3}

$2^{-3} =$ [ ] (Type an integer or a simplified fraction.)

112. Simplify the following expression.

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

$\left(\frac{1}{4}\right)^{-4} =$ [ ] (Type an integer or a simplified fraction.)

113. Simplify. Use positive exponents for any variables. Assume that all bases are not equal to 0.

$\frac{p^{-2}}{q^{-9}}$

$\frac{p^{-2}}{q^{-9}} =$ [ ] (Simplify your answer.)

114. Simplify. Use positive exponents for any variables. Assume that all bases are not equal to 0.

$$\frac{t^{-1}}{t^{-6}}$$

$\frac{t^{-1}}{t^{-6}} =$ [ ] (Use positive exponents only.)

115. Write the number in scientific notation.

41,000

41,000 = [ ] (Use the multiplication symbol in the math palette as needed.)

116. Write the number in scientific notation.

0.00000175

0.00000175 = [ ]
(Use the multiplication symbol in the math palette as needed.)

117. Find the GCF for the given list.

16, 56

The GCF is [ ].

118. Factor out the greatest common factor from the polynomial.

$5x + 25$

$5x + 25 =$ [ ] (Type your answer in factored form.)

119. Factor the following polynomial.

$-48x^4y^4 - 30x^5y^2$

$-48x^4y^4 - 30x^5y^2 =$ [ ] (Factor completely.)

120. Complete the factoring.

$x^2 + 6x + 8$

$x^2 + 6x + 8 = (x + 2)($ [ ] $)$

121. Factor the trinomial completely.

$x^2 - 11x + 18$

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

- **A.** $x^2 - 11x + 18 =$ [ ] (Type your answer in factored form.)
- **B.** The polynomial is prime.

122. Factor the trinomial completely.

$x^2 - 2x - 48$

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

- **A.** $x^2 - 2x - 48 =$ _____ (Type your answer in factored form.)
- **B.** The polynomial is prime.

123. Factor the following binomial completely.

$100x^2 - 169y^2$

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

- **A.** $100x^2 - 169y^2 =$ _____ (Factor completely.)
- **B.** The polynomial is prime.

124. Solve the equation.

$(x - 2)(x + 5) = 0$

x = [ ]
(Simplify your answer. Type each solution only once. Use a comma to separate answers as needed.)

125. Solve the equation.

$x(x + 9) = 0$

x = [ ]
(Use a comma to separate answers as needed.)

126. Solve the equation.

$8x(x - 1) = 0$

x = [ ] (Use a comma to separate answers as needed.)

127. Solve the equation.

$(4x + 7)(5x - 7) = 0$

x = [ ]
(Simplify your answer. Type each solution only once. Use a comma to separate answers as needed.)

128. Solve the equation.

$x^2 - 11x + 28 = 0$

x = [ ]
(Simplify your answer. Type each solution only once. Use a comma to separate answers as needed.)

129. Solve.

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

$x =$ ☐
(Simplify your answer. Type each solution only once. Use a comma to separate answers as needed.)

130. Solve.

$x^2 - 2x = 0$

$x =$ ☐
(Simplify your answer. Type each solution only once. Use a comma to separate answers as needed.)

131. Solve the equation.

$x^2 - 3x = 18$

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

132. Find the product and simplify if possible.

$$\frac{t^2 + 15t + 54}{t^2 + 4t - 5} \cdot \frac{t^2 + 3t - 4}{t^2 + 12t + 36}$$

$$\frac{t^2 + 15t + 54}{t^2 + 4t - 5} \cdot \frac{t^2 + 3t - 4}{t^2 + 12t + 36} = \square$$
(Simplify your answer.)

133. Find the quotient and simplify the result.

$$\frac{3y^4}{2y^5} \div \frac{15y^2}{6y^4}$$

$$\frac{3y^4}{2y^5} \div \frac{15y^2}{6y^4} = \square$$
(Simplify your answer. Use integers or fractions for any numbers in the expression.)

134. Add the rational expressions.

$$\frac{3m}{4n} + \frac{9m}{4n}$$

$\frac{3m}{4n} + \frac{9m}{4n} =$ ☐ (Simplify your answer.)

135. Simplify.

$$-\sqrt{\frac{1}{64}}$$

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

- **A.** $-\sqrt{\frac{1}{64}} =$ _____
- **B.** The root is not a real number.

136. Simplify by factoring. Assume that all variables under radicals represent nonnegative numbers.

$$\sqrt{144x^6}$$

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

- **A.** $\sqrt{144x^6} =$ _____
  (Type an exact answer, using radicals as needed.)
- **B.** The square root is not a real number.

137. Find the cube root.

$$\sqrt[3]{1}$$

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

- **A.** $\sqrt[3]{1} =$ _____
- **B.** The cube root is not a real number.

138. Find the cube root.

$$\sqrt[3]{-\frac{1}{8}}$$

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

- **A.** $\sqrt[3]{-\frac{1}{8}} =$ _____
- **B.** The root is not a real number.

139. Simplify the radical.

$$\sqrt{\frac{49}{16}}$$

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

- **A.** $\sqrt{\frac{49}{16}}$ = _____ (Type an integer or a simplified fraction.)
- **B.** The square root is not a real number.

140. Use radical notation to write the expression. Simplify if possible.

$$\left(\frac{16}{81}\right)^{\frac{1}{4}}$$

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

- **A.** $\left(\frac{16}{81}\right)^{\frac{1}{4}}$ = _____
  (Simplify your answer. Type an exact answer, using radicals as needed.)
- **B.** The answer is not a real number.

141. Use radical notation to rewrite the expression. Simplify if possible.

$1024^{4/5}$

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

- **A.** $1024^{4/5}$ = _____
  (Simplify your answer. Type an exact answer, using radicals as needed.)
- **B.** The answer is not a real number.

142. Simplify by factoring.

$\sqrt{40}$

$\sqrt{40}$ = ☐
(Type an exact answer, using radicals as needed.)

143. Express in simplified form.

$\sqrt[3]{875}$

$\sqrt[3]{875}$ = ☐ • $\sqrt[3]{\square}$

144. Simplify.

$5\sqrt{125}$

$5\sqrt{125}$ = ☐
(Type an exact answer, using radicals as needed. Simplify your answer.)

145. Solve.

$\sqrt{x-14} = 4$

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

- **A.** The solution(s) is(are) x = _____.
  (Use a comma to separate answers as needed.)
- **B.** The solution set is $\varnothing$.

146. Write in terms of i.

$9\sqrt{-63}$

$9\sqrt{-63}$ = ☐
(Simplify your answer. Type an exact answer, using radicals and i as needed.)

147. Use the square root property to solve the equation. The equation has real number solutions.

$(x+6)^2 = 25$

x = ☐
(Simplify your answer. Type an exact answer, using radicals as needed. Use a comma to separate answers as needed.)

1. >

2. 12

3. 19

4. -64

5. B. The answer is undefined.

6. 9

7. -8

8. -6

9. 10

10. -10

11. 8

12. -31

13. 90

14. -12

15. -2

16. -5

17. -12

18. -18

19. 0

20. 56

21. $3a - 18$

22. $-10z - 6$

23. $2x + 2$

24. $-33n + 20$

25. $-5y$

26. $3y + 13$

27. $45y$

28. 1656

29. 88

30. -7

31. 6

32. -3

33. -6

34. -40

35. 0

36. -6

37. $-\frac{3}{14}$

38. A. $\frac{4}{7} \div \frac{13}{14} =$ $\frac{\mathbf{8}}{\mathbf{13}}$ (Type an integer or a simplified fraction.)

39. $\frac{2}{3}$

40. $\frac{9}{10}$

41. $-\frac{9}{20}$

42. $\frac{8}{7}$

43. -119

44. -60

45. -6456

46. 0.99678

47. 35

48. 10

49. 200

50. 0.778

51. 21

52. 28

53. 0.32

$\frac{8}{25}$

---

54. 147.25

441.75

---

55. 45,000

105,000

---

56. 48

(1) in.

---

57. 100

(1) cm

---

58. 132.25π

(1) sq in.

415.265

(2) sq in.

---

59. A. x = **0** (Simplify your answer. Type an integer or a fraction.)

---

60. B. The solution is all real numbers.

---

61. C. There is no solution.

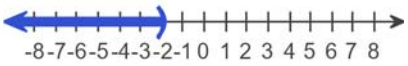
---

62. $10 - 5x$

---

63. $\frac{W - X}{Xy}$

64.

D. 

$(-\infty, -2)$

65.

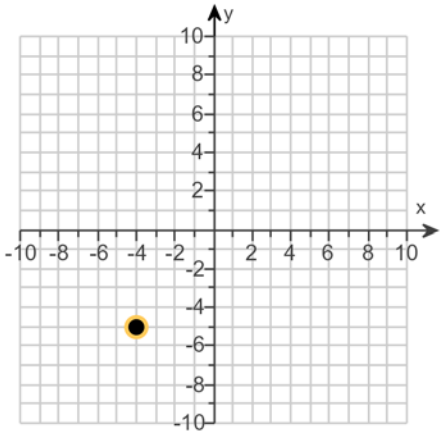
B. 

$[-4,\infty)$

---

66. $(-\infty,-4]$

---

67. 

III

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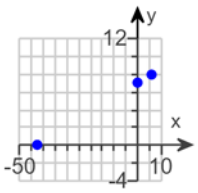
68. $(-3,-3)$

---

69. 7

8

-42



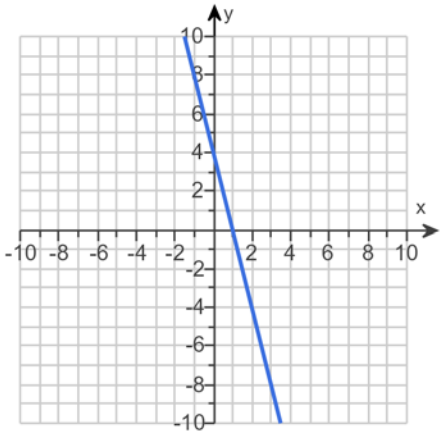
C.

---

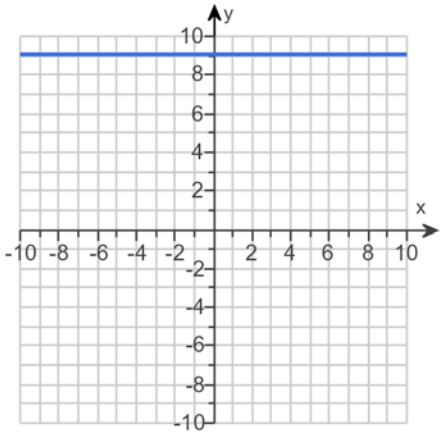
70. 4

0

−4


y
x
10
8
6
4
2
-2
-4
-6
-8
-10
-10 -8 -6 -4 -2 2 4 6 8 10

71.


y
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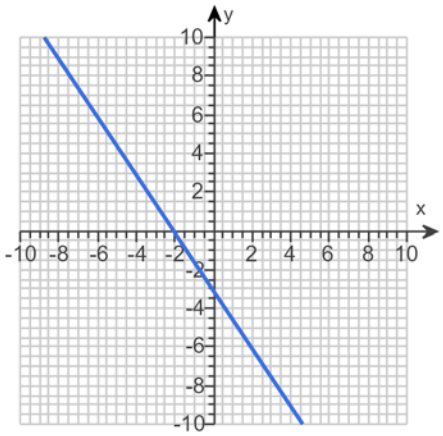
-10
-10 -8 -6 -4 -2 2 4 6 8 10

72.


y
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-4
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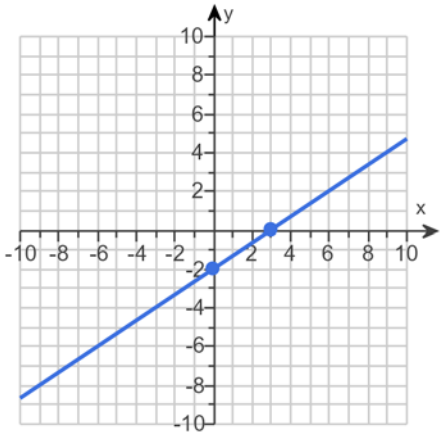
-10
-10 -8 -6 -4 -2 2 4 6 8 10

73.



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74. A. The slope is **−3**. (Type an integer or a simplified fraction.)

---

75. A. The slope is $\frac{6}{7}$. (Simplify your answer.)

---

76. A. The slope is **−5**.

---

77. A. The slope is **−8**.(Simplify your answer. Type an integer or a fraction.)

---

78. A. The slope of the line is $\frac{6}{7}$. (Simplify your answer.)

---

79. $y = 7x + 50$

---

80. 20

---

81. Yes

No

---

82. A. The solution of the system is **(12,3)**. (Type an ordered pair.)

---

83. A. The solution is **(2,9)**. (Simplify your answer. Type an ordered pair.)

---

84. A. The solution is **(4,2)**. (Simplify your answer. Type an ordered pair.)

---

85. x^7

86. $-18p^4q^6$

87. $-18z^{20}$

88. z^{35}

89. $27c^{15}$

90. $25a^6b^8c^2$

91. $\dfrac{-729x^{15}z^{15}}{y^{12}}$

92. b^{15}

93. $5x^2y$

94. 47

95. 255

96. $-13a^2-15ab+11b^2$

97. $4y^2+9y-10$

98. y^2-3y-2

99. $2x^2+2x-9$

100. $6x^3-15x^2+15x$

101. $36y^2 - 12y + 1$

102. $x^4 + 6x^3 - 3x^2 - 14x + 24$

103. $-4x^3 - 24x^2 + 28x$

104. $a^3 - 5a^2 - 16a + 24$

105. $54x^3 + 93x^2 + 62x + 15$

106. $16x^2 - 14x$

107. $3y^2 + 3y - 36$

108. $8y^2 - 42y + 10$

109. $a^2 - 81$

110. C. $25a^2 - 40ac + 16c^2$

111. $\frac{1}{8}$

112. 256

113. $\frac{q^9}{p^2}$

114. t^5

115. 4.1×10^4

116. 1.75×10^{-6}

117. 8

118. $5(x + 5)$

119. $6x^4y^2\left(-8y^2 - 5x\right)$

120. $x + 4$

121. A. $x^2 - 11x + 18 =$ **$(x - 2)(x - 9)$** (Type your answer in factored form.)

122. A. $x^2 - 2x - 48 =$ **$(x + 6)(x - 8)$** (Type your answer in factored form.)

123. A. $100x^2 - 169y^2 =$ **$(10x + 13y)(10x - 13y)$** (Factor completely.)

124. $2, -5$

125. $0, -9$

126. $1,0$

127. $-\frac{7}{4}, \frac{7}{5}$

128. $4,7$

129. $-4,2$

130. $0,2$

131. $6, -3$

132. $\frac{(t + 9)(t + 4)}{(t + 5)(t + 6)}$

133. $\frac{3y}{5}$

134. $\frac{3m}{n}$

---

135. A. $-\sqrt{\frac{1}{64}} =$ $-\frac{1}{8}$

---

136. A. $\sqrt{144x^6} =$ $12x^3$ (Type an exact answer, using radicals as needed.)

---

137. A. $\sqrt[3]{1} =$ 1

---

138. A. $\sqrt[3]{-\frac{1}{8}} =$ $-\frac{1}{2}$

---

139. A. $\sqrt{\frac{49}{16}} =$ $\frac{7}{4}$ (Type an integer or a simplified fraction.)

---

140. A. $\left(\frac{16}{81}\right)^{\frac{1}{4}} =$ $\frac{2}{3}$ (Simplify your answer. Type an exact answer, using radicals as needed.)

---

141. A. $1024^{4/5} =$ 256 (Simplify your answer. Type an exact answer, using radicals as needed.)

---

142. $2\sqrt{10}$

---

143. 5

7

---

144. $25\sqrt{5}$

---

145. A. The solution(s) is(are) x = 30. (Use a comma to separate answers as needed.)

---

146. $27\,i\,\sqrt{7}$

---

147. $-1, -11$
