Student: _____	**Instructor:** Alfredo Alvarez	**Assignment:** Math
Date: _____	**Course:** Math 0410 / 0320 Alvarez	0410SANANTFIESTA35Q

1. Simplify.

$(-14-22)\div 18-28$

$(-14-22)\div 18-28=$ ☐

Answer: -30

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2. Solve the equation.

$5(y-2)=2y-10$

$y=$ ☐

Answer: 0

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3. Solve the equation.

$4(5x-3)=21x$

$x=$ ☐

Answer: -12

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4. Subtract.

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

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

Answer: $-\frac{9}{20}$

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5. Solve the equation.

$\frac{z}{3}+4=\frac{7}{3}$

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

Answer: -5

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6. Solve.

$3.2x - 55 = 1.4x + 8$

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

Answer: 35

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7. A stereo normally priced at $749 is on sale for 25% off. Find the discount and the sale price.

The discount is $☐.

The sale price is $☐.

Answers 187.25

561.75

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8. A company borrows $53,000 for 5 years at a simple interest rate of 14.5%. Find the interest paid on the loan and the total amount paid.

The interest paid on the loan is $☐.

The total amount paid is $☐.

Answers 38,425

91,425

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9. Solve the equation for x.

$6(5x - 2) = 30x - 12$

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.

Answer: B. The solution is all real numbers.

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10. Solve the equation.

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

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.

Answer: C. There is no solution.

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11. Solve the equation for y.

$$7x + y = 10$$

$y =$ [ ]

Answer: $10 - 7x$

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12. Solve the inequality.

$$-6x + 4 \geq 4(3 - x)$$

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

Answer: $(-\infty, -4]$

13.

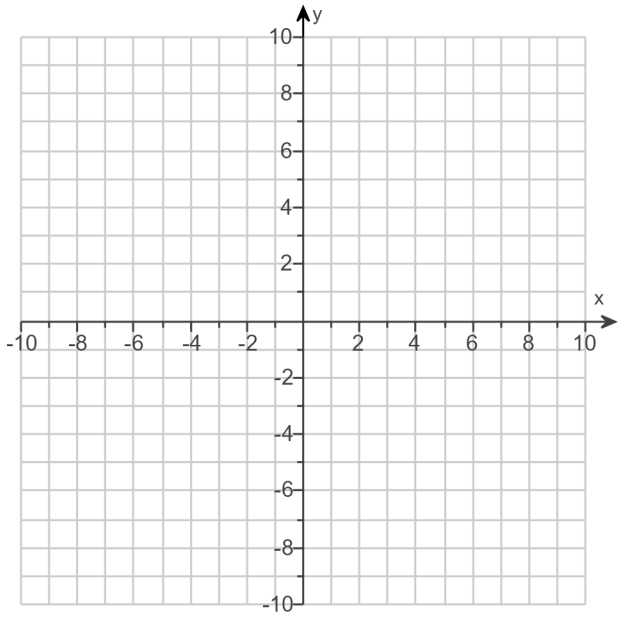
For the following equation, find three ordered pair solutions by completing the table. Then use the ordered pairs to graph the equation.

$y = 8x$

Find three ordered pair solutions of the given equation.

x	y
0	
− 1	
1	

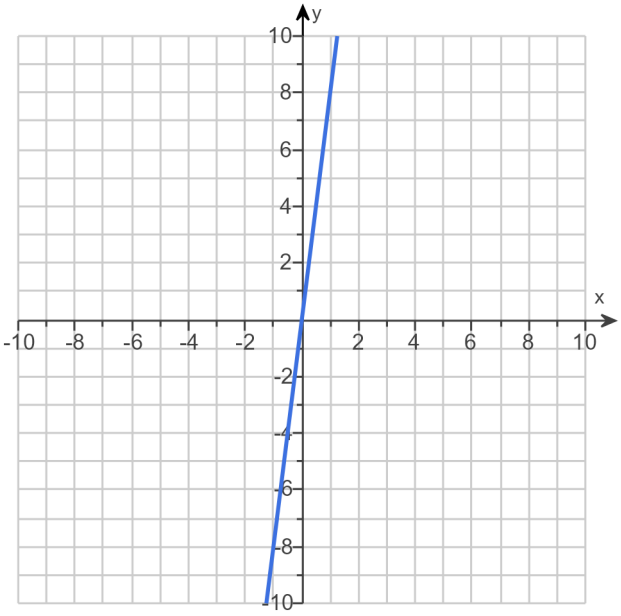
Use the graphing tool to graph the line.



Answers 0

− 8

8



14.

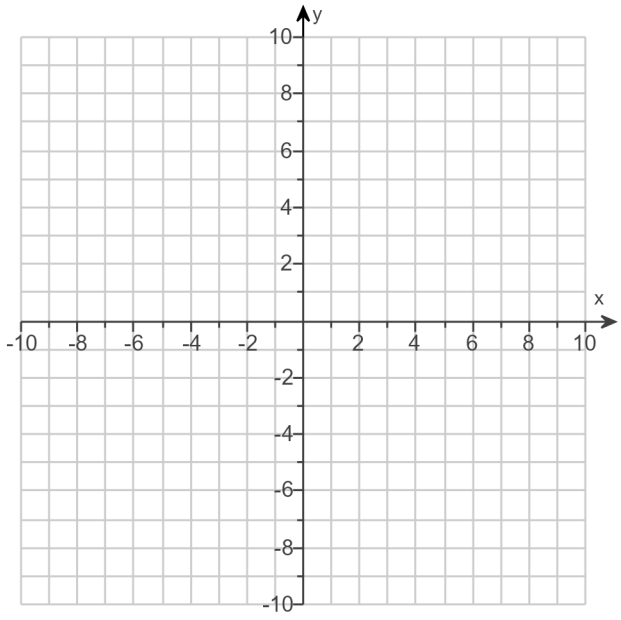
For the following equation, find three ordered pair solutions by completing the table. Then use the ordered pairs to graph the equation.

$y = -4x + 5$

Find three ordered pair solutions of the given equation.

x	y
0	
1	
2	

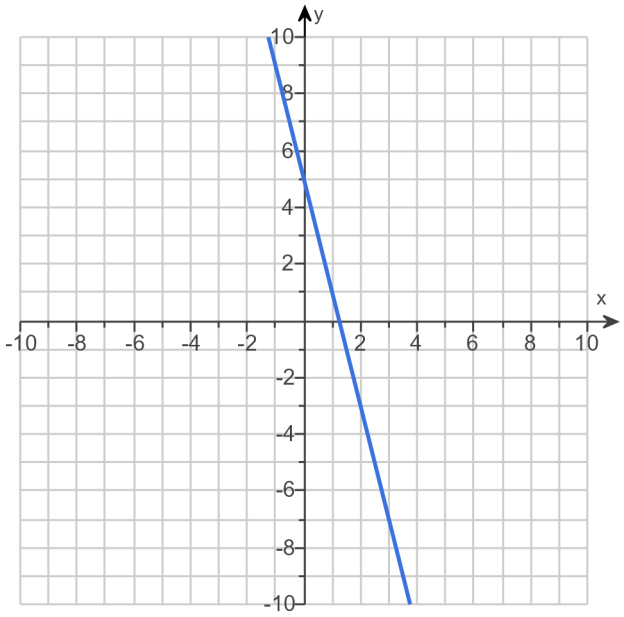
Use the graphing tool to graph the line.



Answers 5

1

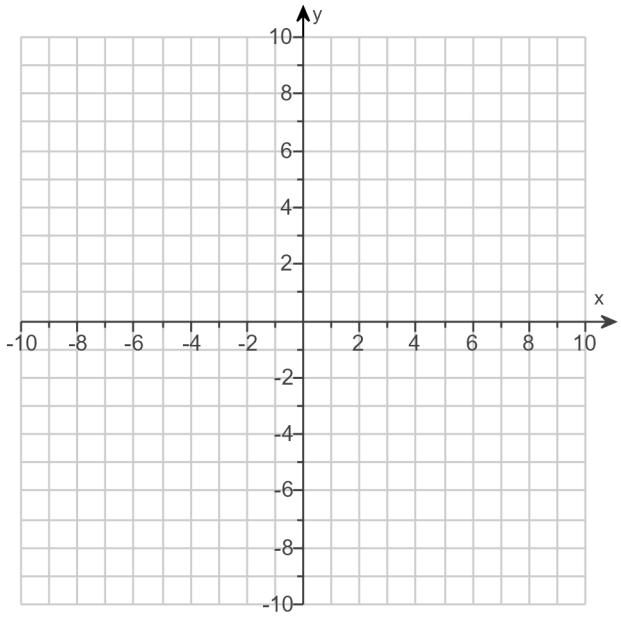
-3



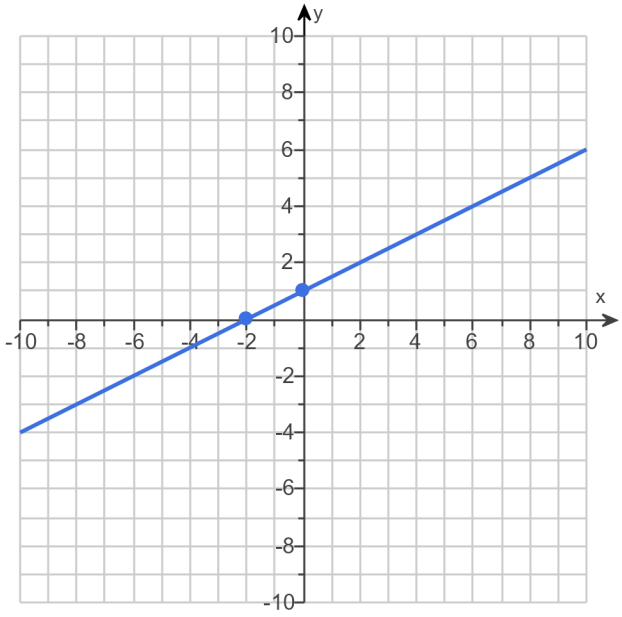
15. Plot the intercepts to graph the equation.

$3x - 6y = -6$

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.



Answer:



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

$(-1, -6)$ and $(2, -7)$

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.

Answer: A. The slope is $-\frac{1}{3}$. (Simplify your answer.)

17. Find the slope of the line.

$9x + y = 2$

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

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

Answer: A. The slope is **−9**.(Simplify your answer. Type an integer or a fraction.)

18. Find the slope of the line.

$9x - 5y = 45$

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.

Answer: A. The slope of the line is $\frac{9}{5}$. (Simplify your answer.)

19. Determine whether the pair of lines are parallel, perpendicular, or neither.

$y = \frac{1}{3}x + 2$

$y = -\frac{1}{3}x$

Choose the correct answer below.

- **A.** Parallel
- **B.** Perpendicular
- **C.** Neither

Answer: C. Neither

20. Find the slope-intercept form of the line whose slope is 3 and that passes through the point $(-3,9)$.

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

Answer: $y = 3x + 18$

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

$$\begin{cases} 2x - y = 5 \\ x + 8y = 11 \end{cases}$$

a. (4,3)
b. (3,1)

a. Is (4,3) a solution?

- ○ Yes
- ○ No

b. Is (3,1) a solution?

- ○ Yes
- ○ No

Answers No

Yes

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

$$\begin{cases} 3x - y = 9 \\ 6x + y = 27 \end{cases}$$

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; $\{(x,y)|3x - y = 9\}$ or $\{(x,y)|6x + y = 27\}$.
- ○ **C.** There is no solution; {} or ∅.

Answer: A. The solution is **(4,3)**. (Simplify your answer. Type an ordered pair.)

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

$$\begin{cases} x + 4y = 9 \\ 2x + 3y = 3 \end{cases}$$

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

- ○ **A.** The solution is _____. (Simplify your answer. Type an ordered pair.)
- ○ **B.** There are infinitely many solutions; $\{(x,y)|x + 4y = 9\}$ or $\{(x,y)|2x + 3y = 3\}$.
- ○ **C.** There is no solution; {} or ∅.

Answer: A. The solution is **(− 3,3)**. (Simplify your answer. Type an ordered pair.)

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24. Jen Butler has been pricing Speed-Pass train fares for a group trip to New York. Three adults and four children must pay $109. Two adults and three children must pay $77. Find the price of the adult's ticket and the price of a child's ticket.

The price of an adult's ticket is $ [ ].

The price of a child's ticket is $ [ ].

Answers 19

13

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25. Kevin and Randy Muise have a jar containing 80 coins, all of which are either quarters or nickels. The total value of the coins in the jar is $12.80. How many of each type of coin do they have?

The jar contains [ ] quarters.

The jar contains [ ] nickels.

Answers 44

36

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26. If $P(x) = x^2 + x + 1$, find $P(7)$.

$P(7) =$ [ ]

Answer: 57

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27. Subtract.

$(4y^2 + 2y - 6) - (-5y + 3)$

$(4y^2 + 2y - 6) - (-5y + 3) =$ [ ] (Simplify your answer.)

Answer: $4y^2 + 7y - 9$

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28. Add.

$(-9y^2 - 8y) + (8y^2 + 2y - 3)$

$(-9y^2 - 8y) + (8y^2 + 2y - 3) =$ [ ] (Do not factor.)

Answer: $-y^2 - 6y - 3$

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29. Find the following product.

$(8y + 6)^2$

$(8y + 6)^2 =$ ☐

Answer: $64y^2 + 96y + 36$

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30. Multiply.

$(5x + 7)(2x + 8)$

$(5x + 7)(2x + 8) =$ ☐ (Simplify your answer.)

Answer: $10x^2 + 54x + 56$

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31. Multiply.

$(x + 6)\left(x^3 - 2x + 5\right)$

$(x + 6)\left(x^3 - 2x + 5\right) =$ ☐

Answer: $x^4 + 6x^3 - 2x^2 - 7x + 30$

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32. Find the following product.

$(2a - 4)\left(5a^2 + 5a - 6\right)$

$(2a - 4)\left(5a^2 + 5a - 6\right) =$ ☐

Answer: $10a^3 - 10a^2 - 32a + 24$

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33. Multiply.

$(10u + v)(10u - v)$

$(10u + v)(10u - v) =$ ☐ (Simplify your answer.)

Answer: $100u^2 - v^2$

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34. Simplify the expression. Write the result using positive exponents only.

$$\left(\frac{x^{-1}y^2}{x^2y^7}\right)^3$$

$\left(\frac{x^{-1}y^2}{x^2y^7}\right)^3 =$ ☐

(Simplify your answer. Use positive exponents only.)

Answer: $\frac{1}{x^9y^{15}}$

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35. Divide using synthetic division.

$$\left(8x^2 + 11x + 10\right) \div (x + 1)$$

$\left(8x^2 + 11x + 10\right) \div (x + 1) =$ ☐

Answer: $8x + 3 + \frac{7}{x + 1}$