# Writing equations of lines

## agenda

Warm-Up

Notes - 2

Card Sort

HW: Practice #1-8

## reminders

Math Blitz TONIGHT!

Algebra I STAAR May 6th

## Warm-Up Thursday

Have out your Defeat theEOC book & HW ready to stamp

1. A painter charges $35 per hour for labor plus $40 for a ladder rental when he paints a house. The customer provides the paint. The total charge to paint a customer's house was $950. How many hours did the painter spend painting this house?

F. 12 2/3 h

G. 28 h

H. 23 h

J. Not here

$35h + 40 = 950$

$-40 \quad -40$

$\frac{35h}{35} = \frac{910}{35}$

$26 = h$

2. The set of ordered pairs below represents some points on the graph of function f.

{(3,11), (-1,3), (5,15), (-4,-3), (-7,-9)}

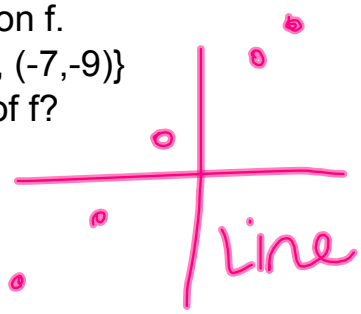
What is the parent function of f?

A. $y = x$

B. $y = 2^x$

C. $y = x^2$

D. $y = \sqrt{x}$



practice

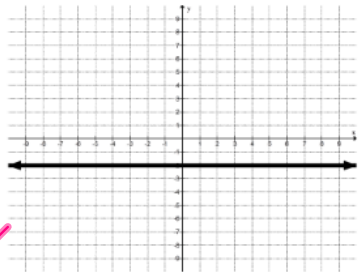
1. Which of the following does not represent a function?

A

| $x$ | -2 | 0 | 4 | 10 |
|---|---|---|---|---|
| $y$ | -1 | 3 | 11 | 23 |

B $y = x^2 - 3$

C {(6, -1), (6, 0), (6, 3), (6, 5)}

D 

2. If $f(x) = x^2 + 2x + 3$, what is the value of $f(x)$ when $x = 6$?

A 27
B 42
C 51
D 60

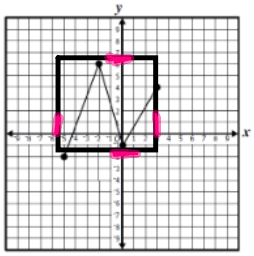
3. What is the value of $\frac{6x - 3y}{xy}$, when $x = 6$ and $y = -4$?

A -2
B -1
C 2
D 3

4. If (-4.5, $y$) is a solution to the equation $2x - 5y = 10$, what is the value of $y$?

5. What is the domain of the function shown?

A $-2 \le x \le 6$
B $-5 \le x \le 3$
C $-2 \le y \le 6$
D $-5 \le y \le 3$



6. The table below shows a relationship between the total cost of purchasing books through a book club and the number of books purchased.

Total Cost in Terms of Books Purchased

| Books Purchased, $x$ | 0 | 1 | 2 |
|---|---|---|---|
| Cost, $y$ | \$10 | \$25 | \$40 |

What is the functions' independent variable?

A \$10
B \$15
C Cost of the club
D Number of books purchased

7. A swordfish travels through the water at a speed of 40 miles per hour. The relationship between the distance traveled, $d$, and the time traveled, $t$, is determined by the function $d = 40t$. Which of the following statements is true?

A The distance a swordfish travels is determined by the size of the swordfish.
B The amount of time a swordfish travels is determined by the size of the swordfish.
C The amount of time a swordfish travels is determined by the distance the swordfish travels.
D The distance a swordfish travels is determined by the amount of time the swordfish travels.

8. Which of the following represents the parent function $y - 2x = 7$?

A $y = 2x$
B $y = x^2 + 7$
C $y = x$
D $y = \sqrt{x}$

9. If $f(x) = 3x - \frac{1}{2}$, what is the value of $f(-3)$?

A $-9\frac{1}{2}$
B $2\frac{1}{2}$
C $8\frac{1}{2}$
D $9\frac{1}{2}$

# Writing equations of Lines

**Standard Form:** $Ax + By = C$

A, B, C are whole #s (not negative).

*find intercepts

*solve for y.

**Point - Slope:** $y - y_1 = m(x - x_1)$

$(x_1, y_1)$ m

**Slope Intercept:** $y = mx + b$ (calculator) (slope) (y-int.)

To write an equation given 2 points: (table)

CALCULATOR

ex. Write equation of the line passing through the points (4,-3) and (-1,2)

STAT 1:Edit...

$L_1 \rightarrow$ X's, $L_2 \rightarrow$ Y's

STAT ▶CALC

4:LinReg

y=-x+1

LinReg
y=ax+b
a=-1
b=1
(slope)
(y-int)

**Parallel** - SAME slope

**Perpendicular** - numbers flipped signs opposite

ex. $m = \frac{2}{3}$ $\perp m = \frac{-3}{2}$ $m = 2$ $\perp m = \frac{-1}{2}$

1. Which of the following is not a correct description of the graph of the equation $2x + y = -7$?

solve for y

$y = -2x - 7$

A. The graph of the equation contains the point (−2, −3), and when the value of $x$ increases by 1 unit, the value of $y$ decreases by 2 units.

B. The graph of the equation contains the points (−1, −5), (2, −11), and (4, −15).

C. The graph of the equation is a line that passes through the point (0, −7) with a slope of −2.

D. The graph of the equation contains the points (0, −7), (1, −9), and (3, −1).

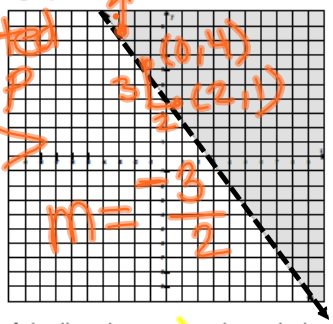
2. Which inequality best describes the graph shown below?

A. $y > -\frac{2}{3}x + 5$

B. $y < -\frac{3}{2}x + 5$

C. $y < -\frac{2}{3}x + 5$

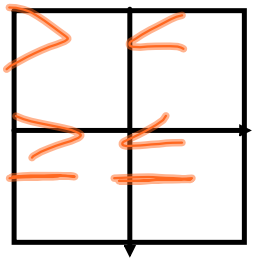
D. $y > \frac{3}{2}x + 5$




UP DOWN

dotted

solid



3. What is the equation in standard form of the line that passes through the point (1, 24) and has a slope of −0.6?

$3(1) + 5(24) = 123$

x y

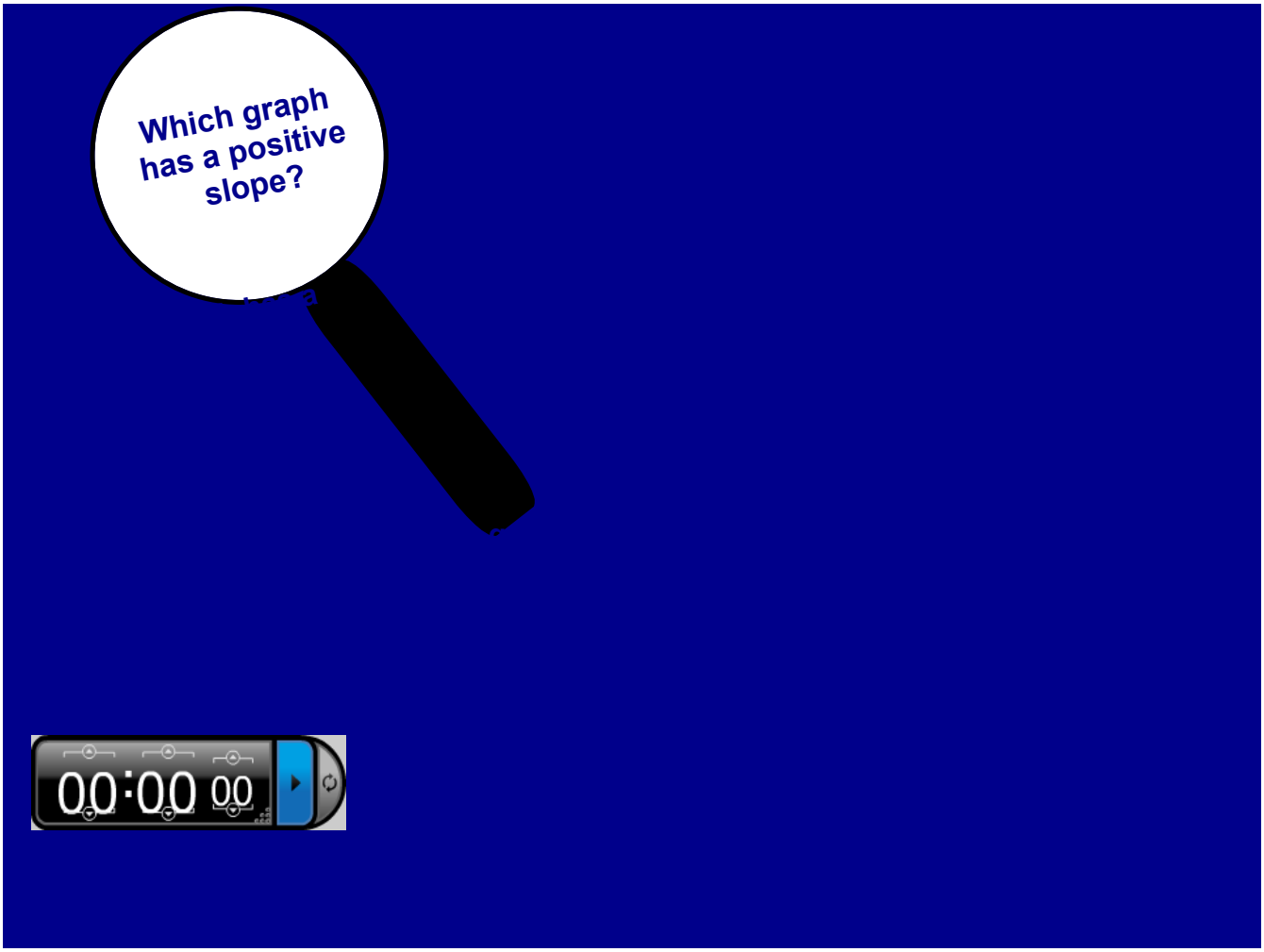
Plug in point x=1 y=24

F $3x + 5y = 125$

G $3x + 5y = 77$

H $3x + 5y = 123$

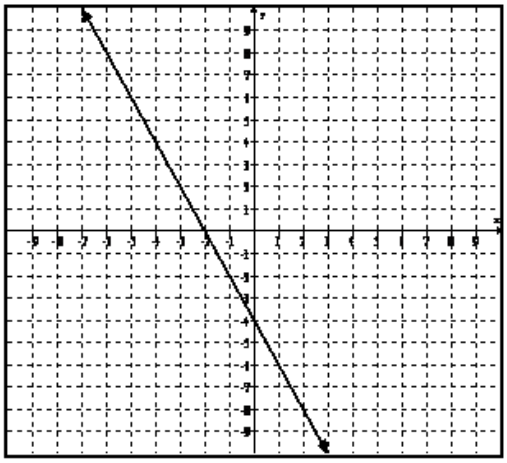
J $3x + 5y = 115$


Which graph has a positive slope?
00:00 00

Algebra I - Unit 11: End of Course Review - Writing Equations of Lines

Which Graph Teacher Sheet– Writing Equations of Lines

1



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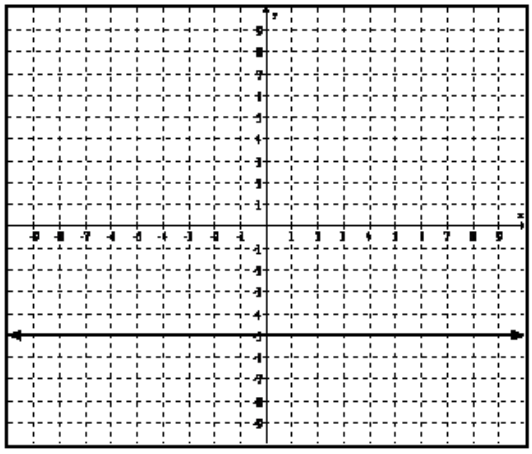

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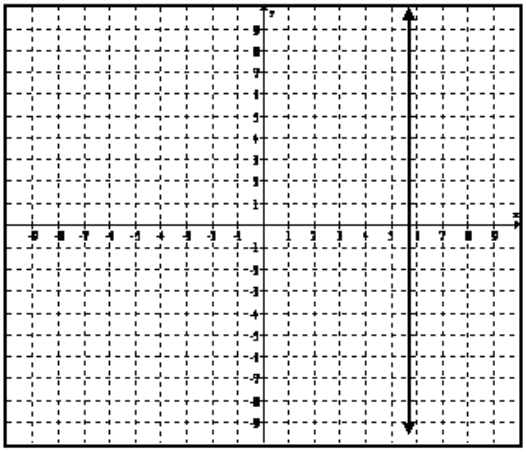

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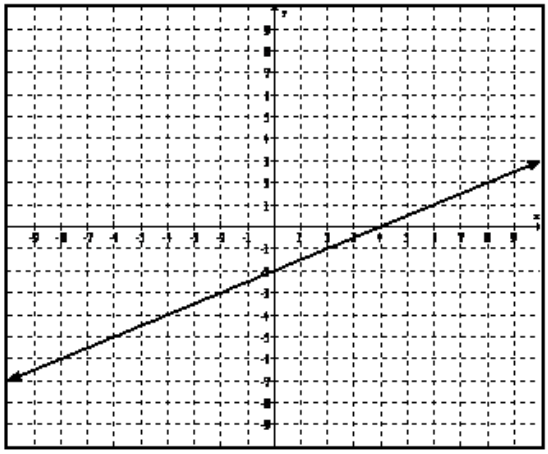


# Writing equations of Lines

# Card sort

~~Directions~~

Match the cards into 5 sets of 4 cards. Each set will have one graph, one table, one equation, and one card with the slope and y-intercept

Practice

1. Which equation describes the line that passes through the point (4, 7) and is parallel to the line represented by the equation $-3x + y = 4$?

A $y = -3x + 19$

B $y = 3x - 5$

C $y = \frac{1}{3}x + 5\frac{2}{3}$

D $y = -\frac{1}{3}x + 8\frac{1}{3}$

2. Write a function in slope-intercept form that represents a line that contains the point (2, 12) and has a slope of -3?

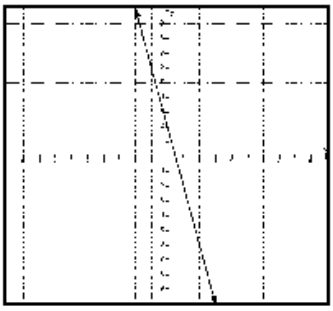
3. Which inequality best represents the graph shown below?

A $x + 4y \geq 8$

B $4x + y \geq 2$

C $4x + y < 2$

D $x + 4y \leq 8$



4. Which function includes the data set $(-2,7),(4,4),(6,3)$ ? LinReg

A $y = -\frac{1}{2}x + 6$ B $y = -2x + 3$

C $y = \frac{1}{2}x + 8$ D $y = 2x - 4$

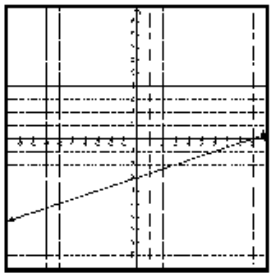
5. What are the intercepts of the linear function shown below?

A (-3, 0) and (9, 0)

B (-3, 0) and (0, 9)

C (0, -3) and (0, 9)

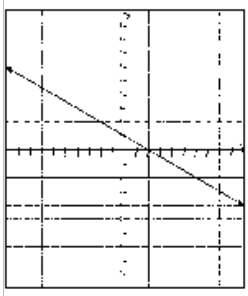
D (0, -3) and (9, 0)



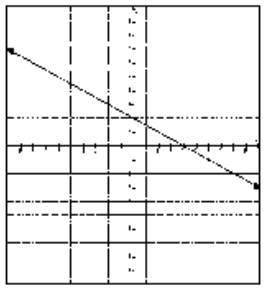
Solve for y

6. Which of the graphs below best represent the inequality $x + 2y < 4$?

A



B



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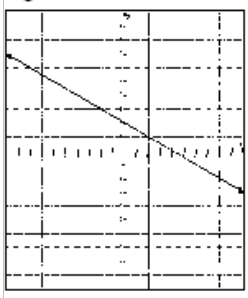
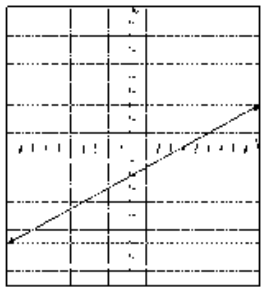


D



7. The table below shows various values for $x$ and $y$. Which equation best describes the relationship between $x$ and $y$? LinReg

A $y = -3x + 5$

B $y = -5x - 7$

C $y = -x + 17$

D $y = 3x + 41$

| $x$ | $y$ |
|---|---|
| -6 | 23 |
| -2 | 3 |
| 7 | -42 |
| 11 | -62 |

8. Which function includes the following set of ordered pairs $(1,3),(2,0),(3,-3)$ ? LinReg

A $y = -3x$ C $y = -3x + 6$

B $y = \frac{-x}{3}$ D $y = -\frac{x}{3} - 4$