

Tuesday, May 16

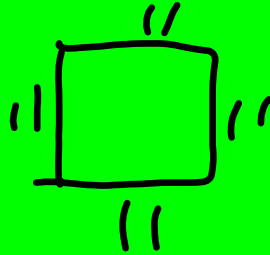
1. Simplify $(5^{-1})^{-3} \times 5^2$

$$5^3 \times 5^2$$
$$\textcircled{5^5}$$

Calc inactive

2. If the area of a square is $\sqrt{121\text{in}^2}$, what is the perimeter of the square?

$$11 \times 4 = 44 \text{ in}$$



FUNctions

EOG Review

you will need paper for this review

To find slope/rate of change from a table

1. find the change in y

2. find the change in x

3. divide $\frac{\Delta y}{\Delta x}$

- 8 Latoya is saving money at a constant rate to buy a new computer. The table below shows the amount of money that Latoya still needs to purchase the computer.

We do
Calc inactive

Weeks of Saving	Money Still Needed
2	\$630
5	\$450
7	\$330
9	-\$210

Handwritten notes: A blue bracket groups the last two rows. A blue arrow points from the '7' row to the '9' row. A blue calculation shows 120 written above the '9' row, with a blue line under it and a blue arrow pointing to the right.

How many dollars is Latoya saving each week?

$$\frac{120}{2} = 60$$

Only 0, 1, 2, 3, 4, 5, 6, 7, 8, 9, ., -, and / are allowed in your answer. Answers that are mixed numbers must be entered as an improper fraction or decimal.

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You Do on Pear Deck

A linear function is shown in this table.

x	$f(x)$
1	-1
5	7
7	11
16	29

$$\frac{11-7}{7-5} = \frac{4}{2} = 2$$

Calc inactive

$$\frac{4}{2} = 2$$

A second linear function, $g(x) = mx + 4$, has the same slope as $f(x)$. What is the value of m ?

To find slope/rate of change from two points

1. subtract y-coordinates
2. subtract x-coordinates
3. divide y/x

We Do

Which is an equation of the line that passes through the points $(-6, 3)$ and $(2, 7)$?

- A. ~~$y = \frac{1}{2}x$~~ ⁽²⁾
- B. $y = \frac{1}{2}x + 6$ ⁽²⁾
_{1 + 6}
- C. ~~$y = 2x - 3$~~
- D. ~~$y = 2x + 15$~~

85 $(-6, 3)$ 24
 $\frac{4}{8} = \frac{1}{2}$

Calc inactive
 $(2, 7)$
 $(-6, 3)$
 $\frac{7-3}{2+6} = \frac{4}{8}$

You Do on Pear Deck

What is the slope of a line that passes through the points $(-3, 2)$ and $(-6, 5)$?

- A. -3
- B. -1
- C. $\frac{1}{3}$
- D. 1

$(-3, 2)$

Calc inactive

$\frac{5-2}{-6+3} = \frac{3}{-3} = -1$

You Do

What is the slope of the line that passes through the points (2, 3) and (8, 6)?

Only 0, 1, 2, 3, 4, 5, 6, 7, 8, 9, ., -, and / are allowed in your answer.
Answers that are mixed numbers must be entered as an improper fraction or decimal.

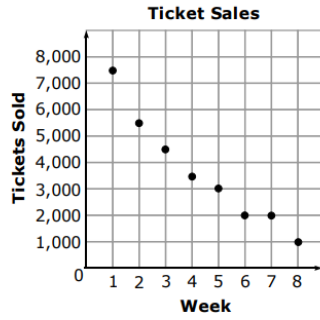
x y
~~6~~ ~~4~~ ~~8~~, ~~6~~ ~~2~~ ~~3~~

$$\frac{3}{6} = \frac{1}{2} = 0.5$$

When asked to interpret or state the meaning a slope from a graph, look at the title of the y-axis compared to the title of the x-axis. For example...

We Do

This graph shows the number of tickets for a new movie sold at a theater during the first 8 weeks of the movie's release.



$$\frac{y \text{ tickets}}{x \text{ weeks}}$$

The company determined that the equation $y = 7,500 - 850x$ modeled the data fairly well. What is the meaning of the slope of the linear model?

XXXXX
A

- the number of tickets sold each week
- the weekly change in the number of tickets sold
- the smallest number of tickets sold in a week
- the number of tickets sold on the first day the movie was released

Slope - Intercept Form

$$y = mx + b$$

↑ slope ↑ y-intercept



To find $y=mx+b$ from a table **Calc Active**

1. find the slope (m)
2. find the y-intercept
 - use y-value across from 0 in x-value if possible or
 - plug in ordered pair and slope for $y=mx+b$
3. use the slope(m) and the y-int (b) to write linear equation

1. put table in Desmos

2. $y_1 = mx_1 + b$ if possible

3. m is slope

b is y-intercept

Function 1 is represented by the equation $y = 3x + 1$. Function 2 is represented by

x	y
-3	2
-2	6
-1	10
0	14
1	18
2	22

We do - calc inactive

$y = mx + b$
 1: 1
 2: 14
 $14 - 1 = 13$

Which function has a larger y-intercept and by how much?

A. The y-intercept of Function 1 is 1 unit larger.

B. The y-intercept of Function 1 is 3 units larger.

C. The y-intercept of Function 2 is 13 units larger.

D. The y-intercept of Function 2 is 15 units larger.

To find slope/rate of change from a graph

1. determine if positive or negative
2. choose two points
3. count the rise between the two points (helpful to make a right triangle following the gridlines)
4. count the run between the two points
5. divide rise/run

Jordan compared the equation $y = -3x + 4$ to the line on this graph.

What is the difference between the slope of the graph and the slope of the equation?

A. 1.0

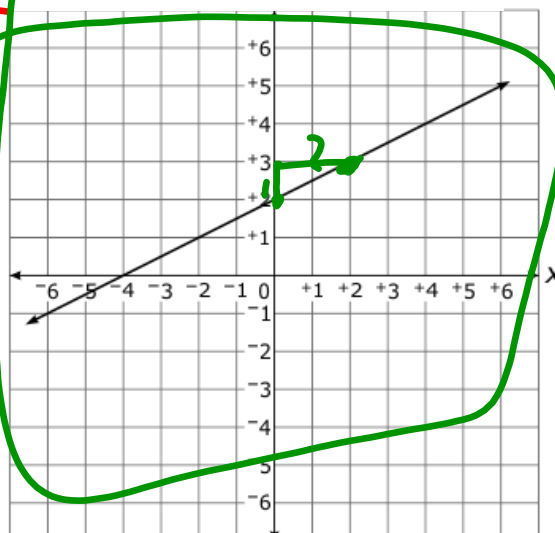
B. 2.5

C. 3.5

D. 5.0

Handwritten work for the problem:

-3 (written in red)
 $\frac{1}{2}$ (written in green)
 $\frac{1}{2} + 3$ (written in black)
 $3\frac{1}{2}$ (written in black)



We
do

calc
inactive

We do - calc active

A car rental company charges a \$50 flat fee and an additional \$20 per day. A second company also charges a flat fee plus an additional cost per day. This table shows the cost to rent a car from the second car company.

Days	Cost
2	\$130
4	\$160
5	\$175

Handwritten notes:
 1: 50
 2: 100
 (50)

What is the absolute value of the difference, in dollars, between the flat fees the two companies charge?

We do - calc active

Two functions are described below.

- Function 1: y is defined as a function of x by the equation $y = 3 - \frac{3x}{5}$.
- Function 2: y is defined as a linear function of x by the following table:

x	y
-5	12
-1	7.2
2	3.6
8	-3.6

Handwritten notes:
 1: $y = 3 - \frac{3x}{5}$
 2: $y = 6 - 1.2x$

Which statement is true?

- A The x -intercept of Function 1 is 9 units larger than the y -intercept of Function 2.
- B The x -intercept of Function 2 is 9 units larger than the y -intercept of Function 1.
- C The y -intercept of Function 2 is half the y -intercept of Function 1.
- D The y -intercept of Function 1 is half the y -intercept of Function 2.

You do on Pear Deck - calc active

Tiffany compared the graph of $y = 7x + 2$ to the graph of the linear function shown in the table.

x	y
4	15
6	31
8	47
10	63

What is the distance, in units, between the y-intercepts of the two functions?

Handwritten notes: 0 , -17 , $15-16=-1$, 2 , -17 , $2-17=-19$

Linda's online used book store charges \$5.00 per paperback book, plus \$7.00 for shipping. Barbara's book store charges based on this table.

Number of Paperback Books Purchased	Total Cost Including Shipping
2	\$17.00
3	\$20.50
4	\$24.00
5	\$27.50

Which store charges more for shipping and how much more does that store charge?

- A. Linda's online used book store charges \$1.50 more for shipping.
- B. Linda's online used book store charges \$3.00 more for shipping.
- C. Barbara's online used book store charges \$3.00 more for shipping.
- D. Barbara's online used book store charges \$3.50 more for shipping.

John's high school allows students to rent laptops for a \$50.00 rental fee, plus \$7.50 each month for insurance. Sara's high school charges for laptops using this table.

Number of Months Rented	Total Charge
1	\$45.00
3	\$75.00
8	\$150.00
10	\$180.00

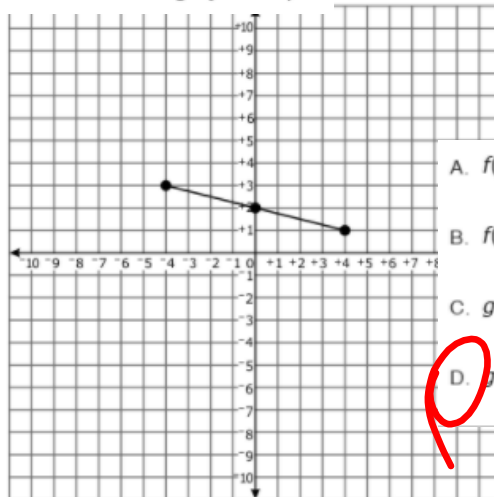
You do
 J: 50
 S: 30

Whose high school has the highest rental fee and by how much more?

- A. Sara's high school by \$7.50
- B. Sara's high school by \$20.00
- C. John's high school by \$7.50
- D. John's high school by \$20.00

Consider the linear function $f(x) = \frac{1}{3}x - 1$ and the function $g(x)$ is shown in the graph

Which function has a larger y-intercept and what is the larger y-intercept?



- A. $f(x)$, with a y-intercept of 3
- B. $f(x)$, with a y-intercept of -1
- C. $g(x)$, with a y-intercept of 8
- D. $g(x)$, with a y-intercept of 2

You do -
no calc

HW due Friday: ALEKS EOG Review

Don't forget:

65% of pie complete by 6/2

Replacement assignment on ALEKS due
5/31

Wednesday, May 17

1. Which choice do all three lie on the same line?

A) $\{(4, 6), (6, 9), (10, 12)\}$

B) $\{(-1, 4), (1, 3), (5, 1)\}$

C) $\{(2, 3), (0, 5), (-2, -1)\}$

2. Which choice is both a square and a cube?

A) 1 B) 8 C) 25 D) 225

You do - no calculator

Function 1 is represented by the equation $y = 3x + 6$. Function 2 is represented in this table

x	y
1	5
3	9
4	11
7	17

Which function has the greater rate of change and by how much?

- A. Function 1 has a greater rate of change by 3.
- B. Function 1 has a greater rate of change by 1.
- C. Function 2 has a greater rate of change by 3.
- D. Function 2 has a greater rate of change by 1.

A linear function is represented by the table below.

x	y
4	12
6	18
8	24
10	30

What is the y -intercept of the function?

- A. -3
- B. 0
- C. 3
- D. 6

You do - try
no calc

Michelle is planning an anniversary party at a restaurant. There is a fee to use the banquet room, plus dinner for each guest. The table below lists the total cost based on the number of guests.

Number of Guests	Total Cost
25	\$425
30	\$505
35	\$585
40	\$665
50	\$825

Using a linear model, what does the y -intercept represent?

You do - calc active

- A. The fee to use the room is \$16.
- B. The fee to use the room is \$25.
- C. The cost of dinner is \$16 per person.
- D. The cost of dinner is \$25 per person.

The table below lists points of a linear function.

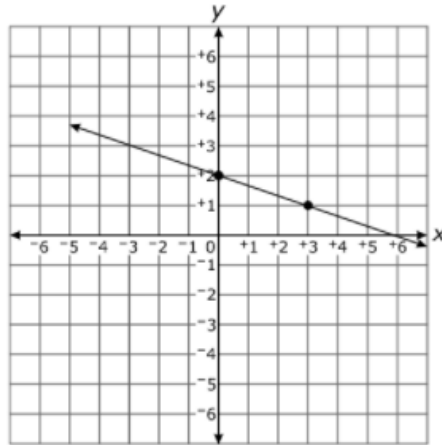
x	y
-1	2
1	6
2	8
5	14

Which equation represents this function?

You do -try no calc first, then check in Desmos

- A. $y = -x + 5$
- B. $y = -x + 2$
- C. $y = 2x + 4$
- D. $y = 4x + 2$

A line is shown on the graph.



You do - no calc

What is the equation of the graph?

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

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

C. $y = -2x - \frac{1}{3}$

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

This table shows points of a linear function

x	y
-2	-18
0	-8
1	-3

Which equation represents the linear function?

You do - no calc

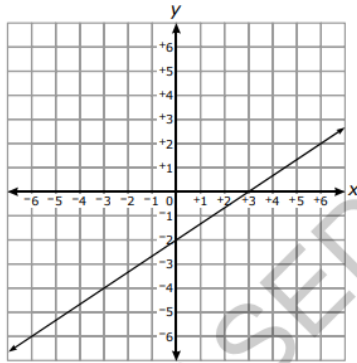
A. $y = -8x + 5$

B. $y = -8x - 5$

C. $y = -5x - 8$

D. $y = 5x - 8$

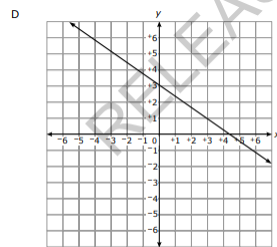
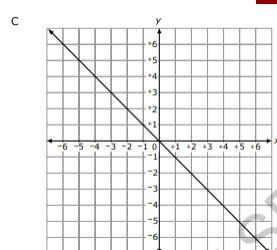
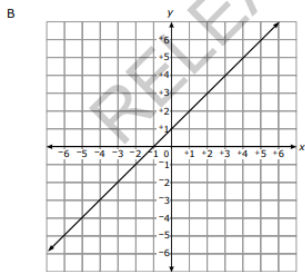
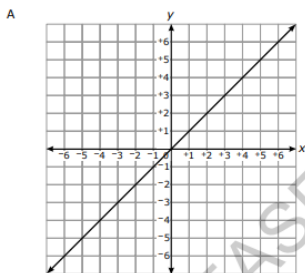
What is the equation of the line graphed below?



- A $y = \frac{2}{3}x - 2$
- B $y = \frac{2}{3}x + 3$
- C $y = \frac{3}{2}x - 2$
- D $y = \frac{3}{2}x + 3$

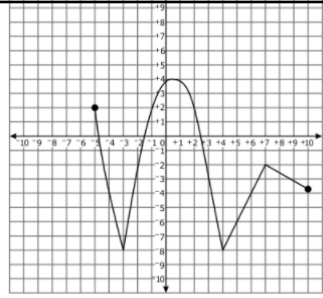
You do - no calc

Which is the graph of the linear equation $y = -x$?



You do - no calc

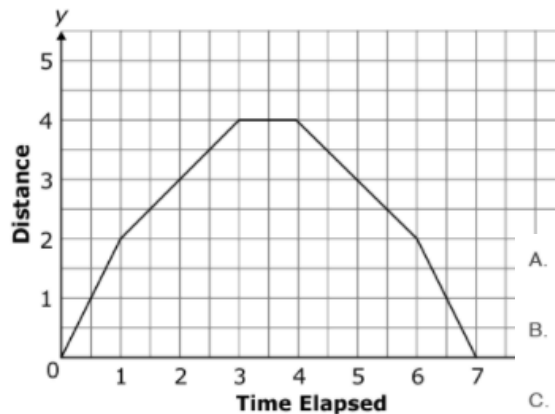
What are all the domains in which the function is decreasing?



You do

- A. The function is decreasing when x is between -5 and -3 and when x is between 7 and 10 .
- B. The function is decreasing when x is between 0.5 and 4 and when x is between 7 and 10 .
- C. The function is decreasing when x is between -5 and -3 , when x is between 0.5 and 4 , and when x is between 7 and 10 .
- D. The function is decreasing when x is between -7 and 2 , when x is between -7 and 4.25 , and when x is between -3.5 and -2 .

This graph shows movement of an object over time.

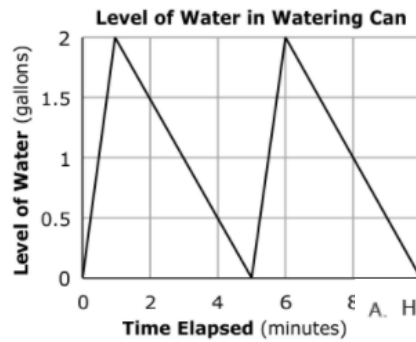


You do

- A. between $x = 0$ and $x = 1$
- B. between $x = 1$ and $x = 3$
- C. between $x = 3$ and $x = 4$
- D. between $x = 6$ and $x = 7$

For which values of x is y increasing the fastest?

This graph shows the level of water in gallons that Hank has in a watering can.



You do

What is *most likely* happening when the graph is decreasing?

- A. Hank is putting the watering can away for the day.
- B. Hank is using the watering can to water a plant.
- C. Hank is carrying the watering can to his plants.
- D. Hank is filling the watering can with water.

HW due Friday: ALEKS EOG Review

Don't forget:

65% of pie complete by 6/2

Replacement assignment on ALEKS due
5/31