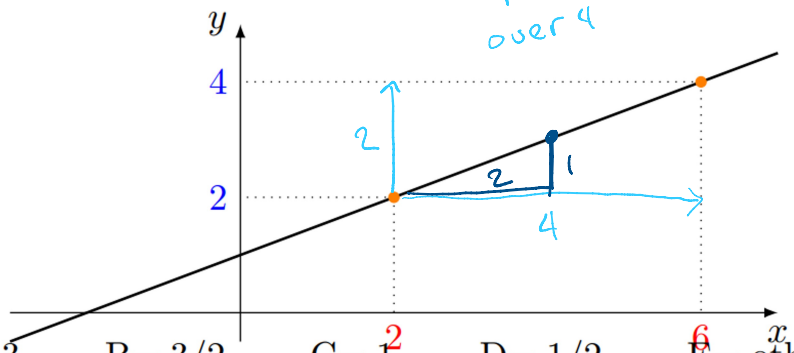
4-7 Lines

Thursday, January 13, 2022 1:36 PM

1. What is the slope here?



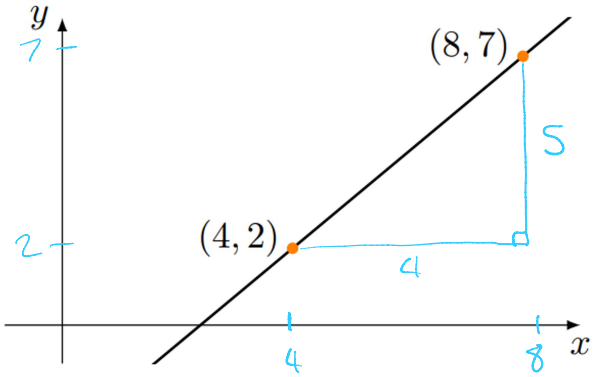
up 2 over 4

$\frac{2}{4} = \frac{1}{2}$

$\frac{1}{2}$

A= 3 B= 3/2 C= 1 D= 1/2 E= other

2. What is the slope here:



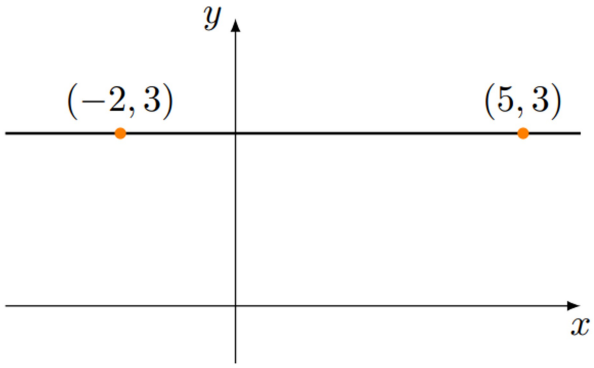
rise = 7-2

run = 8-4

$\frac{\text{rise}}{\text{run}} = \frac{5}{4}$

A= 5/4 B= 4/5 C= 1/4 D= 4 E= 5

3. What is the slope here:



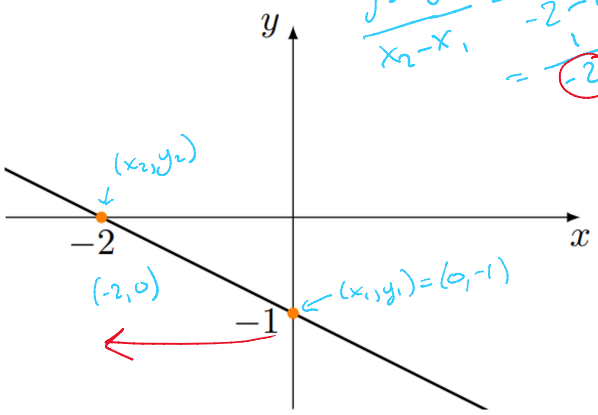
slope = 0

A= 0 B= 7 C= 5/3 D= ∞ E= 3/5

4. What is the slope here:

$\frac{y_2 - y_1}{x_2 - x_1} = \frac{0 - -1}{-2 - 0} = \frac{1}{-2} = \frac{-1}{2}$

4. What is the slope here?



$\frac{y_2-y_1}{x_2-x_1} = \frac{0-(-1)}{-2-0} = \frac{1}{-2} = \frac{-1}{2}$

A= -1 B= 1 C= 1/2 D= $-1/2$ E= -2

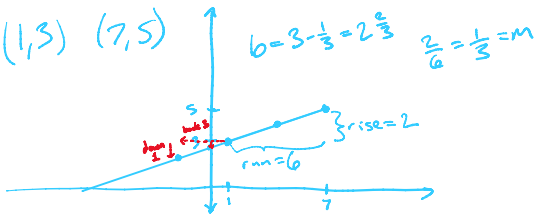
5. A line goes through two points: (x_0, y_0) and (x_1, y_1). Find the slope of this line. Draw a picture!

A= $y_1 - y_0$ B= $(y_1 - x_1)/(y_0 - x_0)$
C= $(y_1 - y_0)(x_1 - x_0)$

D= $(y_1 - y_0)/(x_1 - x_0)$ E= Shirley you're joking

6. Find the equation of the line $\boxed{y = mx + b}$ through the points $(1, 3)$ and $(7, 5)$.

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



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

Plan: Find m, then find b.

- What is m?

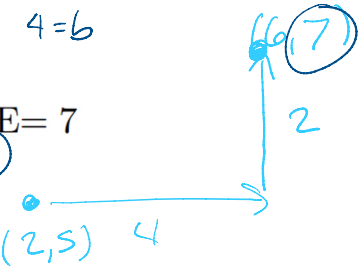
  A= 1 B= 3 C= 5 D= 1/3 E= 2

- What do you get for b?

  A= 1/3 B= 4/3 C= 7/3 D= 8/3 E= 10/3

7. A line has slope 1/2 and goes through the point $(2, 5)$. What is the y-coordinate of the point on this line where $x = 6$?

$y = \frac{1}{2}x + b$ $5 = \frac{1}{2}\cdot 2 + b$ $4 = b$

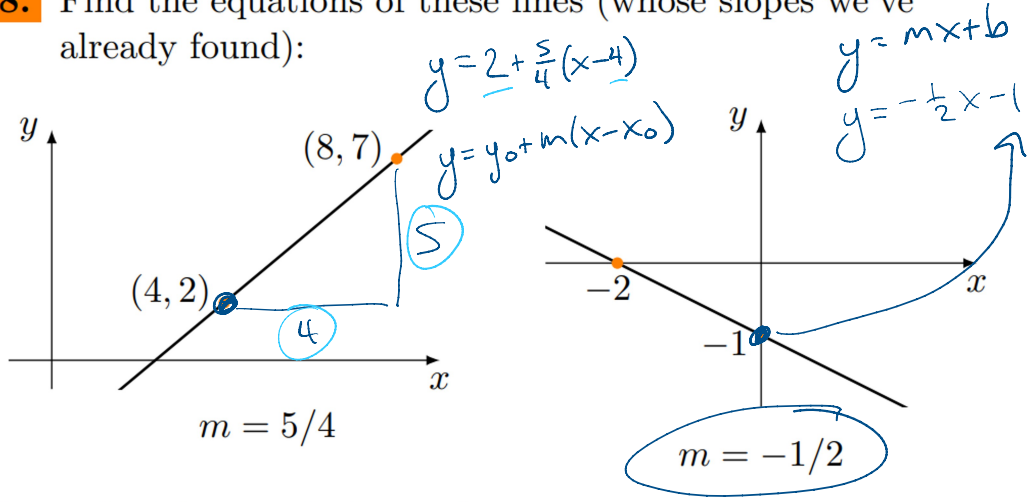


A= 3 B= 4 C= 5 D= 6 E= 7

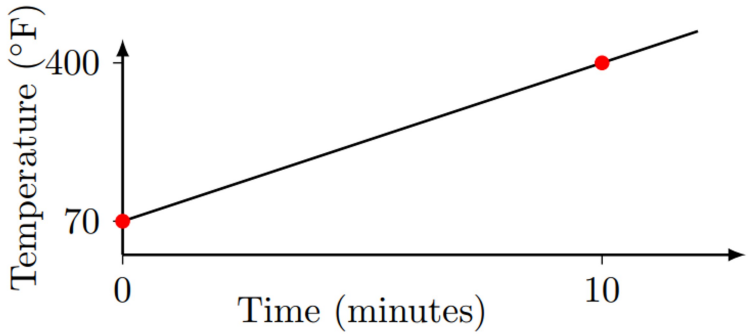
$y = \frac{1}{2}x + 4$ $y = \frac{1}{2}(6) + 4 = y = 3 + 4 = 7$

Plan: 1. Find equation of the line.
2. Plug in $x = 6$ to find y.

8. Find the equations of these lines (whose slopes we've already found):



Example: This graph shows the temperature in an oven as it heats up:



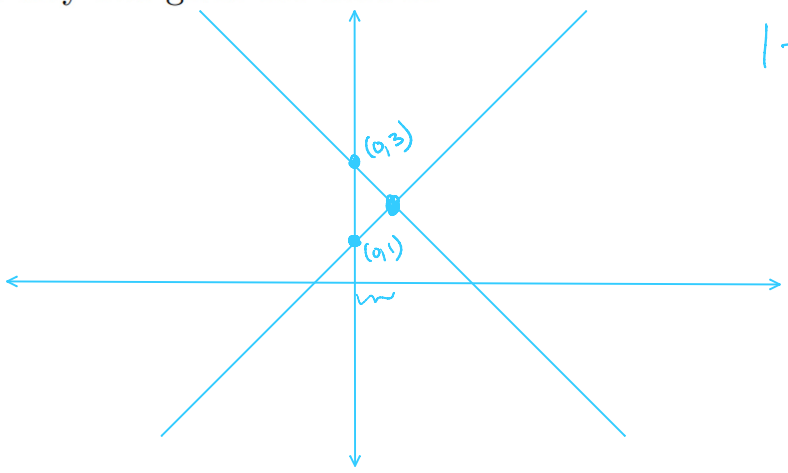
9. How quickly (in °F/min) is the oven heating up?

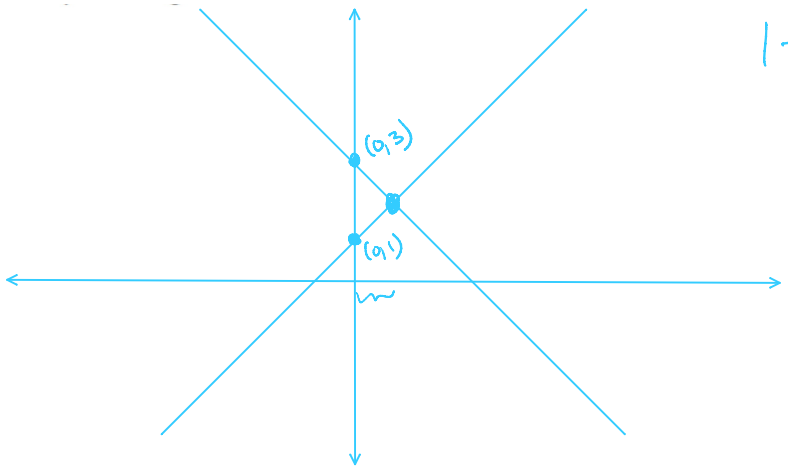
A= 70 B= 10 C= 40 D= 33 E=Other

10. Where does the line $y = 1 + x$ cross the line $y = 3 - x$? Find both the x and y coordinates of the crossing point.

Plan:

1. Draw a picture! showing two straight lines crossing.
2. Solve the two simultaneous equations
3. THINK why this gives the answer!





$1+x=3-x$

$+x \quad +x$

$-1 \quad -1$

$2x=2$

$\boxed{x=1}$