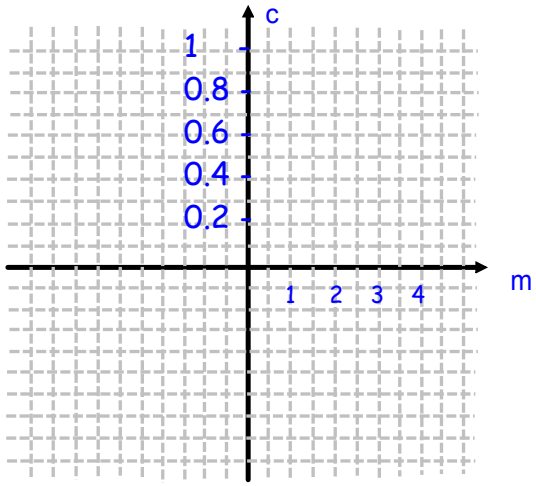
Today's lesson and objectives

Linear equations in 2 variables

- Determine the slope of a line
- Recognize that slope stands for something in the real world
- Use slope to write equations of parallel and perpendicular lines
- Model real problems in two variables
- Learn techniques of Quick-draw for lines

ChitChat, a cellular-phone-service provider, has no monthly fee for cellular-phone service but does charge a $0.45 per minute usage fee. You would like to know what your monthly bill will cost depending on how many minutes you talk. Call the cost c, and the minutes used m, and represent the relationship between the two. Graph c in terms of m.

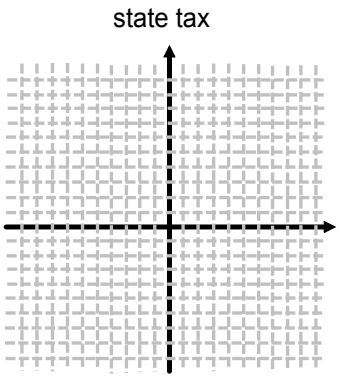


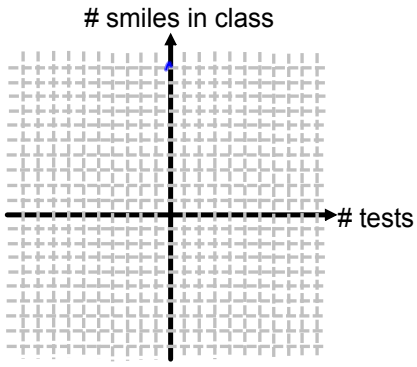
Can you determine how much your bill would be if you talk 432 minutes one month?

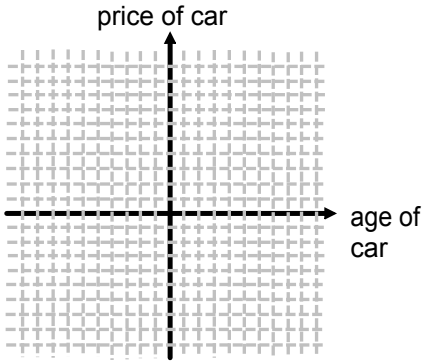
Can you determine how many minutes you've used if your bill was $146.25?

How would your graph change if cost per minute changed?

Slope means something:

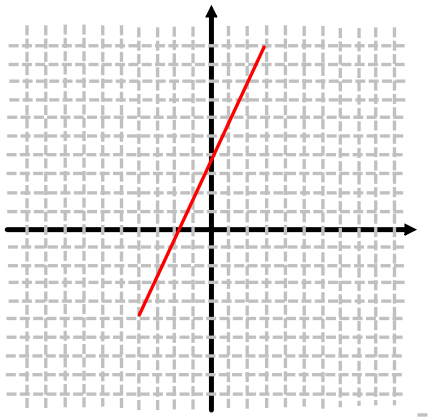


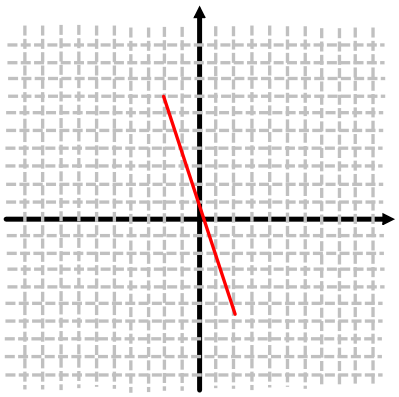


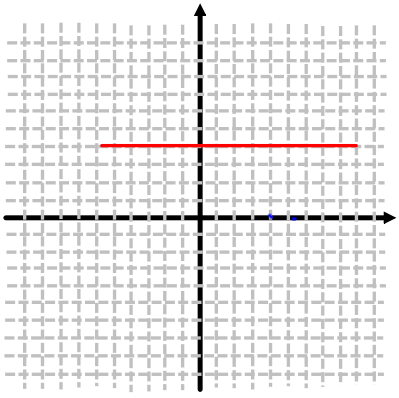


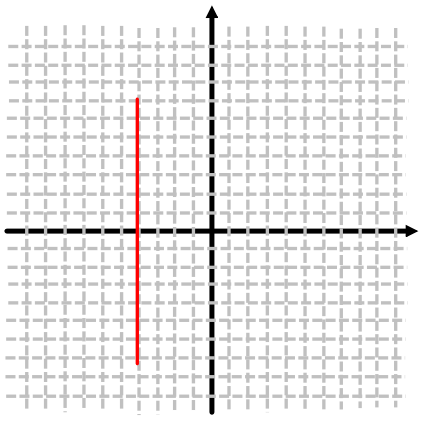
What does this mean?

$$slope = \frac{\Delta y}{\Delta x} = \frac{y_2 - y_1}{x_2 - x_1}$$

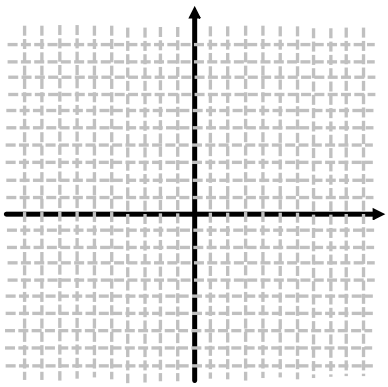




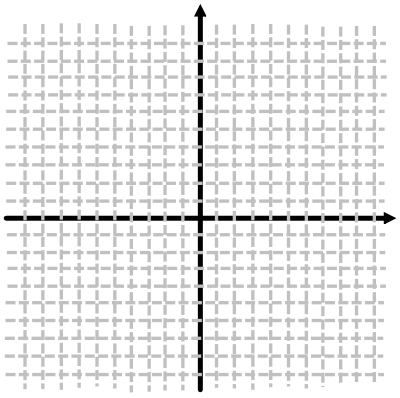




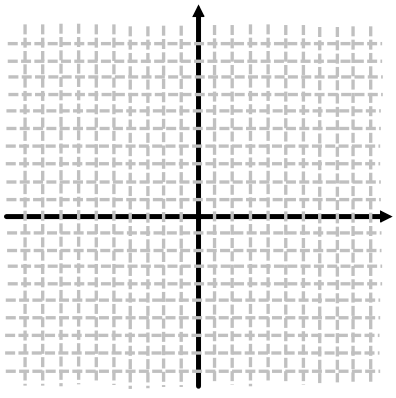
Point-slope form: $(y-y_1)=m(x-x_1)$



Slope intercept form: $y=mx+b$



General form: $Ax+By=C$ (A,B,C are real numbers)



1) Find the slope and the y-intercept of these lines

a) $y=-3/2\ x+4$

b) $2x+3y=9$

c) $x-5=0$

d) $y=3$

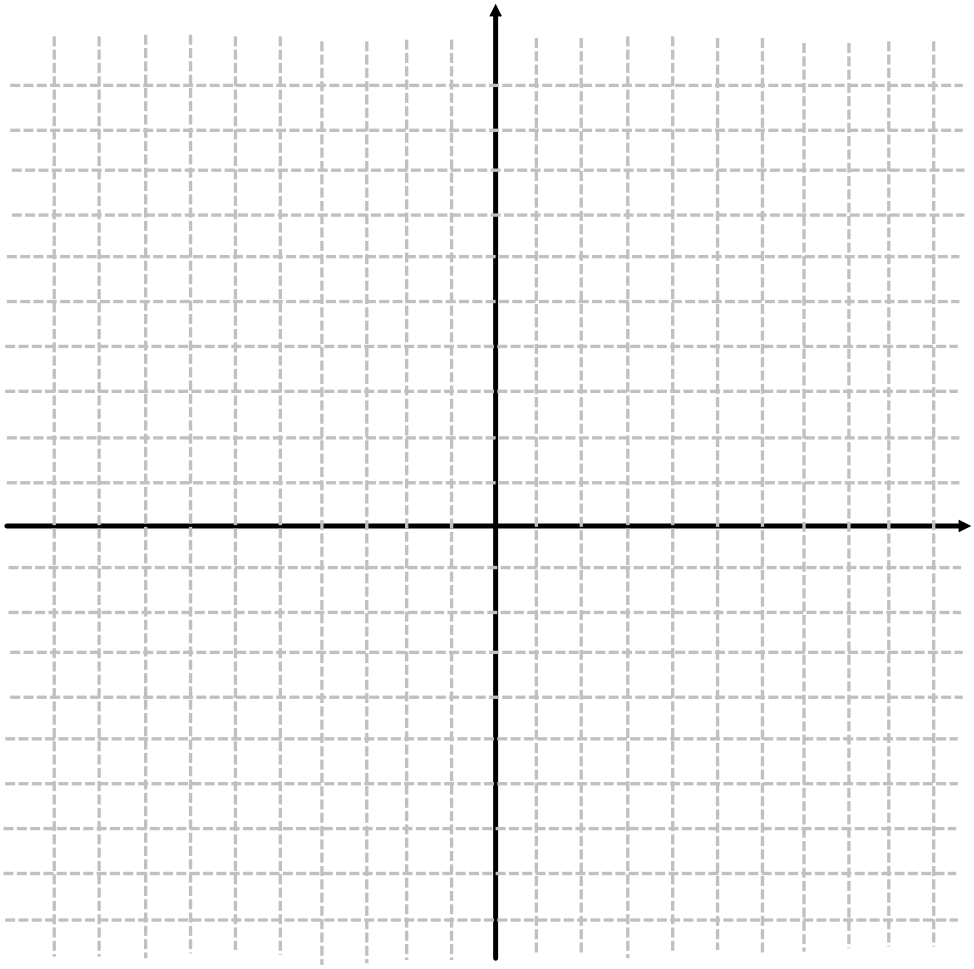
2) Find the slope of these lines:

a) The line between (7/8, 3/4) and (5/4, -1/4)

b) (2.1, -3.4) and (5, -2)

3) Determine the equation of the lines with the given information.

a) Through (-1,-6) with slope -1/2

b) Through (-1,4) with undefined slope

c) Through (2,-5) perpendicular to $3x-2y=6$