UNIT 2 LESSON 2

CONNECTING GRAPHS OF EQUATIONS AND LINEAR FUNCTIONS

Linear functions model many situations in everyday life where the rate of change is proportional.

THINGS YOU ALREADY KNOW…

Slope-intercept form: y = mx + b

Function: one x-value for every y-value

Slope: Also called RATE OF CHANGE OR RISE OVER RUN

Y-intercept: point where the graph crosses the y-axis; the "b" in the formula for slope-intercept form

The equation for the graph of a linear function can be determined by finding the slope and y-intercept.

If the y-intercept is unknown, the equation of a line can be found either by using one point and the slope, or by using two points.

To find the equation of a linear function using a point and the slope, substitute the point and slope into the

Slope intercept form y = mx + b and solve for b.

To find the equation from two points, use the points to find the slope. Then substitute into the sope-intercept form.

EX#1) The graph of a linear function is shown. Use two points on the line to find its slope. Write the equation for this line using the slope-intercept form. Determine the y-intercept, b.

Points (2, 3) and (5, 4)

1) Find the slope $= \dfrac{4-3}{5-2} = \dfrac{1}{3}$

2) Use one of the given points and the slope to find b.

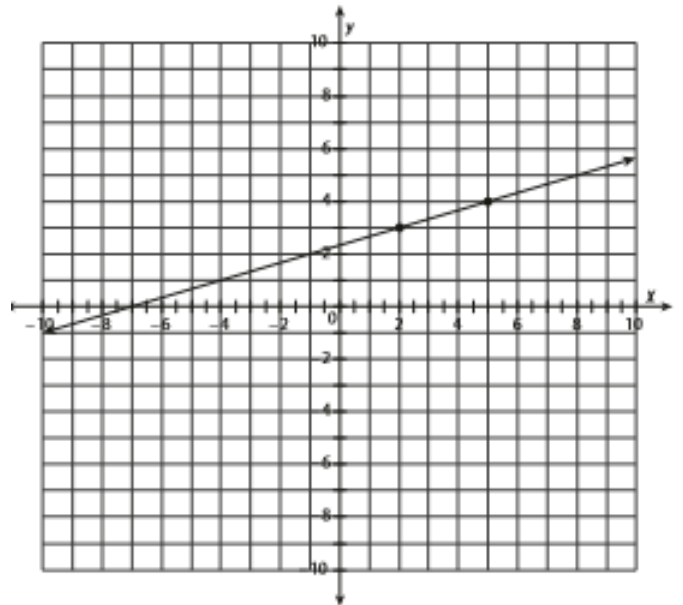Use point (2, 3) and the slope m=$\dfrac{1}{3}$

Y = mx + b

$3 = \dfrac{1}{3} (2) + b$

$3 = \dfrac{2}{3} + b$

$b = \dfrac{7}{3}$

3) Write the equation in slope-intercept form y = mx + b → $y = \dfrac{1}{3}x + \dfrac{7}{3}$

EX#2) YOU TRY!!! Write an equation in slope-intercept form of the line that passes through the points (4, 7) and (5, 1). Determine the y-intercept, b.