

BC Math 9 Two-Variable Linear Relations 1

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- Two-variable continuous linear relations; includes rational coordinates
- Horizontal and vertical lines
- Graphing relation and analyzing
- Interpolating and extrapolating approximate values
- Spirit canoe journey predictions and daily checks
- Lines using graphing, interpolation, and extrapolation

1. Plot the point $(2, -4)$

2. $y = 3$

a. Sketch this line

b. What quadrants is this line in?

3. $y = 2x + 3$

a. Create a table of values

b. Sketch the graph

4. Given $y = mx + b$ what is the meaning of:

a. m ?

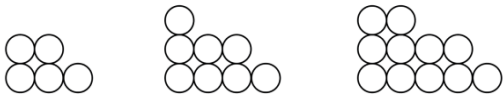
b. b ?

5. Sketch $y = 2 - 3x$

6. Sketch: $y = \frac{-2}{3}x + 3$

7. Given the points (0,2) and (8,4)
- Find the slope
 - Find the line equation in slope-point form: $y - y_1 = m(x - x_1)$
 - Find the line equation in slope-intercept form: $y = mx + b$
8. Given the point $(2\frac{1}{2}, -\frac{1}{2})$ and $(4, -2\frac{1}{4})$ find the slope
9. You make \$50 for showing up to your job site and you charge \$40 per hour
- What is the equation of the graph?
 - Sketch this graph
 - How much do you make for working 8 hours?
 - How long do you have to work to earn \$290?
10. You go canoeing and have an initial energy level of "72". Each km you travel you lose 3 units of energy
- Model your energy level, E , as a function of distance, d
 - How much energy will you have after travelling 10 km?
 - When do you run out of "energy"?

11. See figures 1, 2, and 3 below respectively:



a. How many circles are in figure 100?

b. What figure number contains 131 circles?

12. 10, 7, 4, 1, -2, ... Find the 100th number