Key

Review Sheet

Average Rate of Change

For each x/y table, is the rate of change constant?

1)

x	y	
1	12	)4
4	16	)1.5
6	14.5	)11
8	25.5	)4.5
11	30	

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$\frac{4}{3} \neq \frac{1.5}{2} \neq \frac{11}{2} \neq \frac{4.5}{3}$

NO

2)

x	y	
-4	10	)6
-1	16	)2
0	18	)6
3	24	)4
5	28	

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$\frac{6}{3} = \frac{2}{1} = \frac{6}{3} = \frac{4}{2}$

$2 = 2 = 2 = 2$

Yes

Daniel grows at a CONSTANT RATE. The table below shows his growth over time.

Time(years)	0		3	5	6		10
Inches	?	24	36	44	?	48	64

2 (between 3 and 5) 8 (between 44 and 64)

3) Fill in the missing data values.

See table

$\frac{8}{2} = 4$ The rate of change is 4. 4 inches per year

4) Write an equation for Daniel's growth. What does the y intercept represent? What does the slope represent?

$y = 24 + 4x$ or $y = 4x + 24$

y-intercept means when Daniel was born he was 24 inches tall

the slope of 4 means Daniel grew 4 inches per year

Slope Formula

$$m = \frac{y_2 - y_1}{x_2 - x_1}$$

- $\frac{change\ in\ y}{change\ in\ x}$

Slope-Intercept Form

$$y = mx + b$$

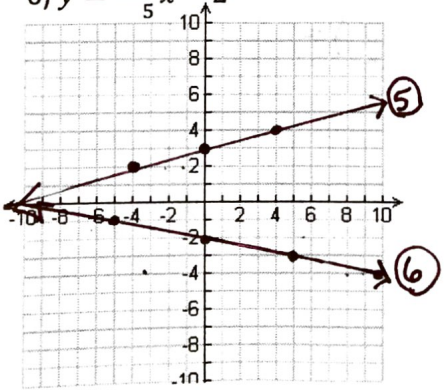
-Easiest way to graph:

- Plot the y-intercept (b)
- Write the slope (m) as a fraction. Use "change in y/change in x" to get more points on your line

Graph each equation. Use each coordinate plane for two graphs.

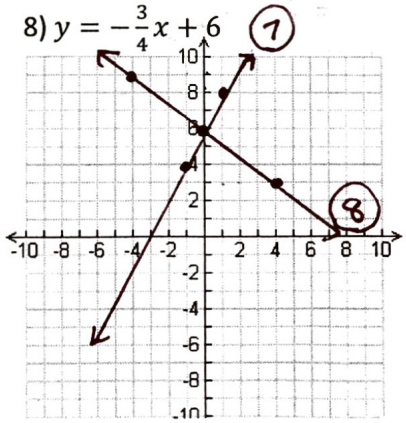
5) $y = \frac{1}{4}x + 3$

6) $y = -\frac{1}{5}x - 2$



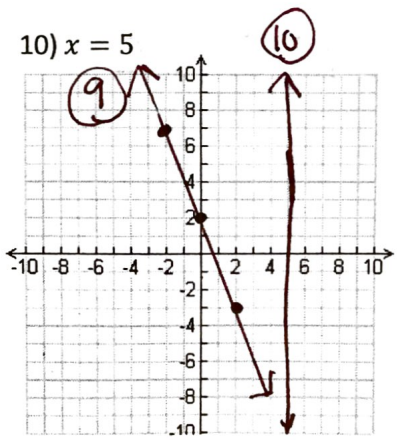
7) $y = 2x + 6$

8) $y = -\frac{3}{4}x + 6$



9) $y = -\frac{5}{2}x + 2$

10) $x = 5$



Write the equation of the line in slope-intercept form.

11) Slope = $\frac{5}{2}$, goes through (0, -4)

$y = \frac{5}{2}x - 4$

12) Goes through (3, 1) and (5, 5)

slope: $\frac{5-1}{5-3} = \frac{4}{2} = 2$

$y = 2x + b$

$1 = 2(3) + b$

$1 = 6 + b$

$-5 = b$

$y = 2x - 5$

13) Goes through (0, -5) and (3, -4)

slope: $\frac{-4-(-5)}{3-0} = \frac{1}{3}$ (y-intercept)

$y = \frac{1}{3}x - 5$

14) Goes through (5, -6) and (2, 6)

slope: $\frac{6-(-6)}{2-5} = \frac{12}{-3} = -4$

$y = -4x + b$

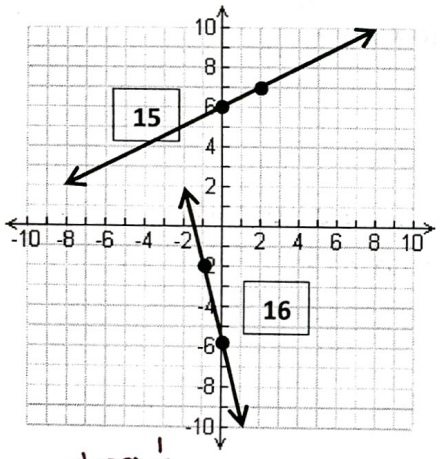
$6 = -4(2) + b$

$6 = -8 + b$

$14 = b$

$y = -4x + 14$

Write the equation of the line in slope-intercept form.

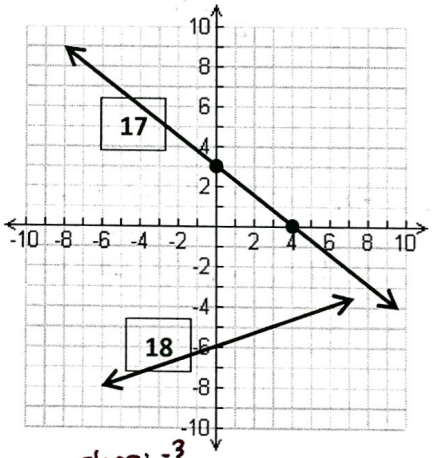


15) slope: $\frac{1}{2}$
y-intercept: 6

$y = \frac{1}{2}x + 6$

16) slope: -4
y-intercept: -6

$y = -4x - 6$

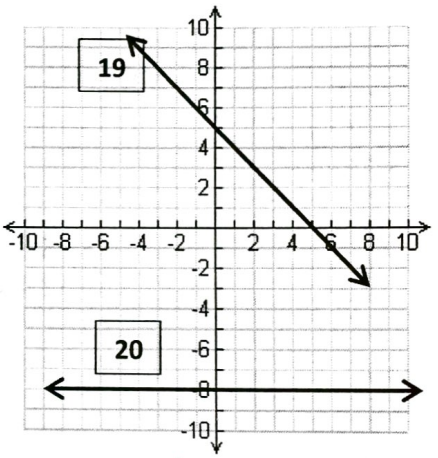


17) slope: $-\frac{3}{4}$
y-intercept: 3

$y = -\frac{3}{4}x + 3$

18) slope: $\frac{1}{3}$
y-intercept: -6

$y = \frac{1}{3}x - 6$



19) slope: -1
y-intercept: 5

$y = -x + 5$

20) Slope: 0
y-intercept: -8

$y = 0x - 8$

$y = -8$