Review Sheet **Key**

☐ Find the Rule
☐ Find the slope from a table, from a graph, and from two points. Interpret the Slope in Context.
☐ Graph from slope intercept form
☐ Write the equation for the graph
☐ Find the equation for the line from two points given

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

Above table annotations: 3, 2, 1, 4 ; $\frac{12}{3}=4$, $\frac{8}{2}=4$, $\frac{4}{1}=4$, $\frac{16}{4}=4$

1) Fill in the missing data values.

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

$$y = 4x + 24$$
→ how tall he was at birth
how much he grows each year

Hiking Elevation (Height Above Canyon Floor (feet) vs Time (minutes))
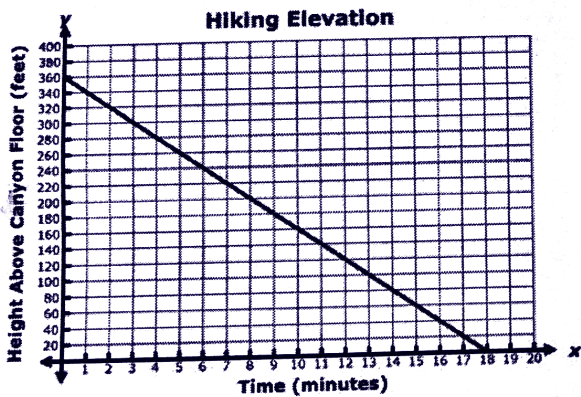
3) Write the equation for the line. $y = 360 - 20x$

a. What does the slope mean in context?
You are getting 20 ft closer to the canyon floor every minute

b. What does the y intercept mean in context?
You start at 360 ft above the canyon floor

4)

Jack and Jill are selling cupcakes. Jack's total profit is given by the table to the left. Jill's total profit is given by the equation to the right. Who is gaining profit at a faster rate? How do you know?

JACK

Number	Cost
1	$3.50
2	$6.50
3	$9.50
4	$12.50
5	$15.50

$y = 3x + 0.50$

JILL

$$y = 2x + 20$$

Jack is gaining at a faster rate because the slope is bigger ($3 vs. $2)

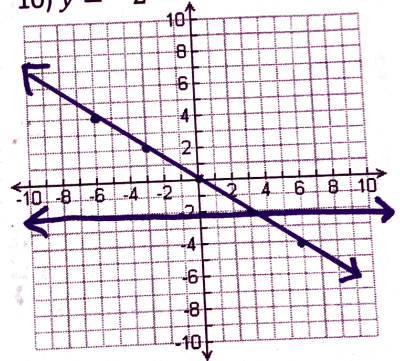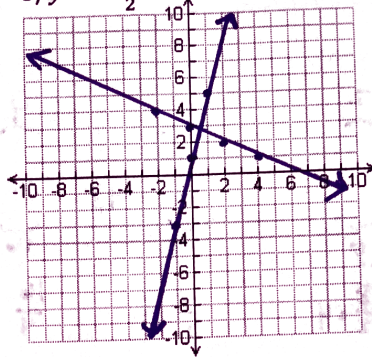**Graph each equation. Use each coordinate plane for two graphs.**
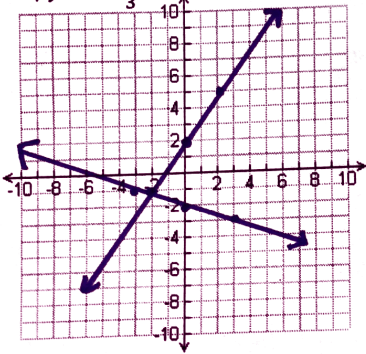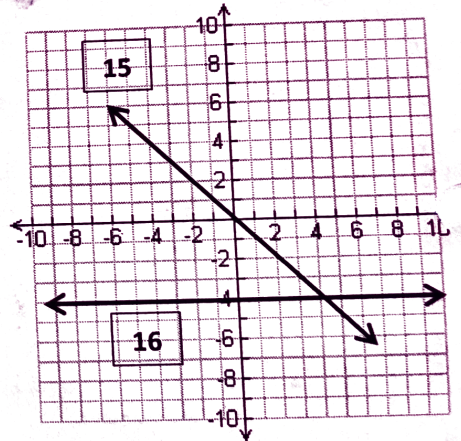
5) $y = \frac{3}{2}x + 2$
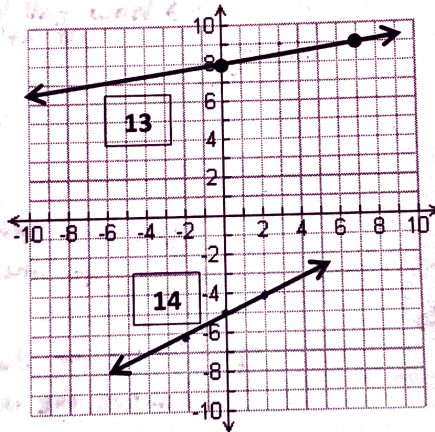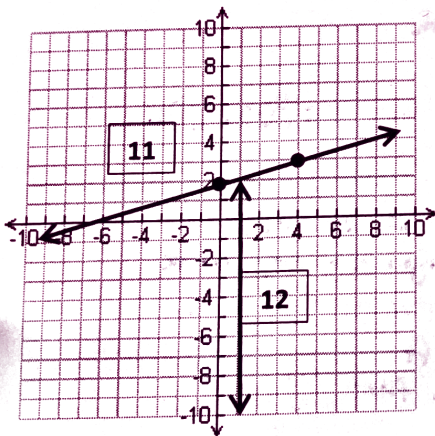
7) $y = 4x + 1$

9) $y = -\frac{2}{3}x$

6) $y = -\frac{1}{3}x - 2$

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

10) $y = -2$

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

11) $y = \frac{1}{4}x + 2$

13) $y = \frac{1}{7}x + 8$

15) $y = -x$

12) $x = 1$

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

16) $y = -4$

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

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

$y = \frac{5}{2}x - 4$ ↙ y-intercept.

18) Goes through $(3, 1)$ and $(5, 5)$

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

$\boxed{y = 2x - 5}$

$y = 2x + b$
$5 = 2(5) + b$
$5 = 10 + b$
$-5 = b$

19) Goes through $(0, -5)$ and $(3, -4)$

→ y-intercept!

$\frac{-4 - (-5)}{3 - 0} = \frac{1}{3}$ $\boxed{y = \frac{1}{3}x - 5}$

20) Goes through $(5, -6)$ and $(2, 6)$

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

$y = -4x + b$
$6 = -4(2) + b$
$6 = -8 + b$
$\boxed{y = -4x + 14}$ $14 = b$