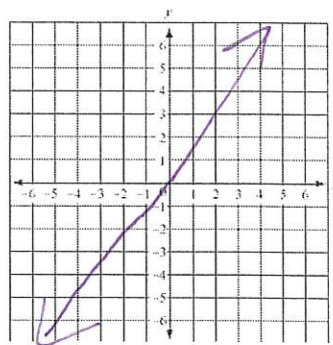


### Algebra Unit 2 Quiz 2 REVIEW

1. Fill in the table so that it represents a direct variation.      2. Draw an example of a direct variation graph.

| x | y |
|---|---|
| 0 | 0 |
| 1 | 2 |
| 2 | 4 |
| 3 | 6 |

$\frac{y}{x}$  always same



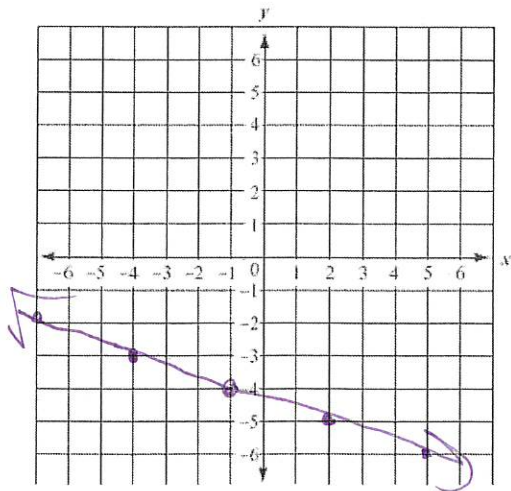
3. The perimeter,  $p$ , of a square photograph varies directly with its length,  $L$ . The perimeter is 32cm when the length is 8cm.

Write a direct variation model (equation) to represent this situation.  $p = 4L$

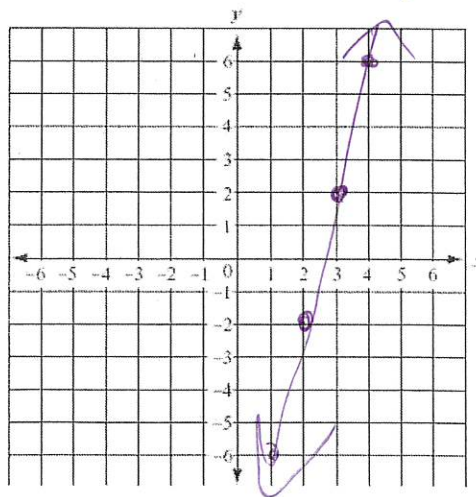
Find the length when the perimeter is 104 cm. 26

4. Graph the lines using point-slope form:

$y + 3 = -\frac{1}{3}(x + 4)$        $(-4, -3)$



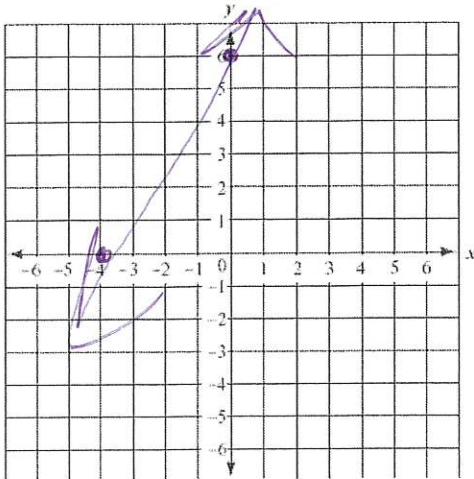
$y - 2 = 4(x - 3)$        $(3, 2)$



5. Find the x- and y-intercepts of  $3x-2y=-12$   
Graph the line using the intercepts.

x-intercept:  $(-4, 0)$

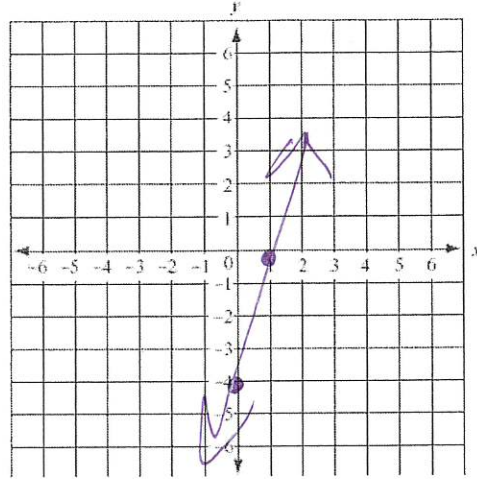
y-intercept:  $(0, 6)$



6. Find the x- and y-intercepts of  $y = 4x-4$   
Graph the line using the intercepts.

x-intercept:  $(1, 0)$

y-intercept:  $(0, -4)$



7. Find the equation of a line in *slope-intercept form* that has a slope of 4 and passes through the point (8,3).

$$3 = 4(8) + b$$

$$3 = 32 + b \quad b = -29$$

$$y = 4x - 29$$

8. Find the equation of the line in *slope-intercept form* that passes through the points (2,4) and (1,6).

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

$$4 = -2(2) + b$$

$$4 = -4 + b$$

$$8 = b$$

$$y = -2x + 8$$

9. What is the equation of the line in *slope-intercept form* that is perpendicular to  $3x+2y=9$  and passes through the point (6,-4)?

$$-4 = \frac{2}{3}(6) + b$$

$$-4 = 4 + b$$

$$-8 = b$$

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

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

10. What is the equation of the line in *slope-intercept form* that is parallel to  $y=-5x$  and passes through the point (4,2)?

$$2 = -5(4) + b$$

$$2 = -20 + b$$

$$22 = b$$

$$y = -5x + 22$$

11. List 5 points that are on the line  $y-2=-3(x+1)$ .

$$y-2 = -3x-3$$

$$y = -3x-1$$

| x | y  | x | y   |
|---|----|---|-----|
| 0 | -1 | 3 | -10 |
| 1 | -4 | 4 | -13 |
| 2 | -7 |   |     |

12. Snow is falling at a constant rate. After 3 hours there was 2 inches of snow on the ground. After 8 hours, there was 3 inches of snow on the ground. Write an equation in slope intercept form for this situation. (3,2) (8,3)

$$\frac{3-2}{8-3} = \frac{1}{5} = m$$

$$y = \frac{1}{5}x + \frac{7}{5}$$

$$2 = \frac{1}{5}(3) + b$$

$$2 = \frac{3}{5} + b \quad b = \frac{7}{5} = \frac{7}{5}$$