Does each table show Direct Variation? If yes do the following:

a. Find the variation constant
b. Write a Direct Variation Equation
c. Find the value of x when y = 72

1.

X	Y	
8	12	≥ 1
–4	–6	≥ 1
24	36	≥ 1
108	72	< 1
–1.5	–2.25	≥ 1

NO

2.

X	Y	$\frac{y}{x}$
–15	54	–3.6
8	–28.8	–3.6
25	–90	–3.6
4.5	–16.2	–3.6
–40	144	–3.6

Yes

a) $k = -3.6$

b) $y = -3.6x$

c) $72 = -3.6x$

$x = -20$

Use this line: $y = -2x + 9$ $m = -2$

1. Write the equation fo the line that is perpendicular to this line and passes through (6,11)

slope is opposite reciprocal

slope $= \frac{1}{2}$

$y - 11 = \frac{1}{2}(x - 6)$

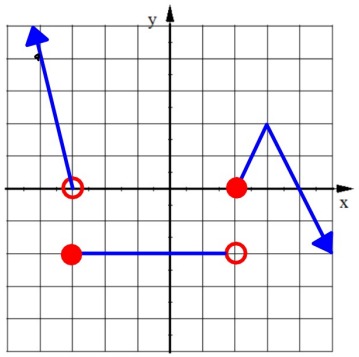
2. Write the equation fo the line that is parallel to this line and passes through (-3,-7)

Same slope

slope $= -2$

$y + 7 = -2(x + 3)$

Write the rule for this piecewise function:



$$\begin{cases} -4x - 12 & \text{if } x < -3 \\ -2 & \text{if } -3 \leq x < 2 \\ -2|x-3| + 2 & x \geq 2 \end{cases}$$