

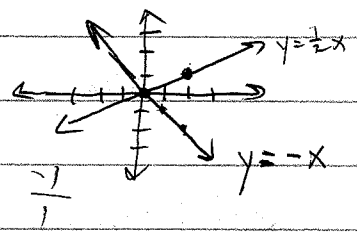
Warm-up: Write eqn for line thru  $(0,0)$  &  $(4,8)$  ( $y=2x$ )

A flower is 4.5cm wide & has leaf 7.2cm long. Find ratio of flower width to leaf length ( $\frac{5}{8}$ )

## 2.5 Direct Variation

\* A family of graphs whose lines go through the origin

$$y=0x$$



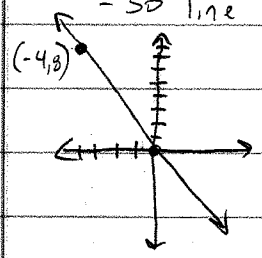
Form of:  $y = ax$

$y$  varies directly with  $x$   
 $a$  is constant of variation

Write & graph a direct variation eqn

1) Do it for eqn that has  $(-4, 8)$  as a solution

- So line goes through  $(-4, 8)$  &  $(0, 0)$



$$y = ax$$

know  $(-4, 8)$  on line, so plug

$$\text{in } x = -4 \text{ \& } y = 8$$

$$8 = a(-4)$$

$$\div b y - 4$$

$$\frac{8}{-4} = \frac{a(-4)}{-4}$$

$$-2 = a$$

Now plug  $a = -2$  into  $y = ax$

So equation is  $y = -2x$

~~plg~~

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