

**Whiteboard Practice!**

Y varies directly with X. If  $y = 4$  when  $x = 2$ , find y when  $x = -6$ .

①  $Y = mX$   
 ②  $\frac{4}{2} = \frac{m(2)}{2}$   
 $m = 2$   
 ③  $Y = 2(-6)$   
 $Y = -12$

Y varies inversely with X. If  $y = 7$  when  $x = 4$ , find y when  $x = 5$

①  $Y = \frac{m}{X}$   
 ②  $\frac{7}{1} = \frac{m}{4}$   
 $m = 28$   
 ③  $Y = \frac{28}{5}$   
 $Y = 5.6$

The volume V of gas varies inversely to the pressure P. The volume of gas is  $200 \text{ cm}^3$  under pressure of  $32 \text{ kg/cm}^2$ . What will be its volume under pressure of  $40 \text{ kg/cm}^2$ ?

$Y = \frac{m}{X}$   
 $\frac{32}{1} = \frac{m}{200}$   
 $m = 6400$   
 $\frac{40}{1} = \frac{6400}{X}$   
 $\frac{40X}{40} = \frac{6400}{40}$   
 $X = 160 \text{ cm}^3$

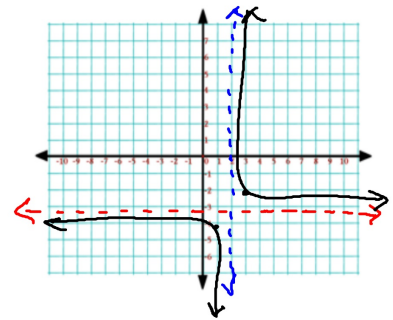
The number of kilograms of water in a person's body varies directly as the person's mass. A person with a mass of  $90 \text{ kg}$  contains  $60 \text{ kg}$  of water. How many kilograms of water are in a person with a mass of  $50 \text{ kg}$ ?

①  $Y = mX$   
 $Y = 1.5X$   
 ②  $\frac{90}{60} = \frac{m(60)}{60}$   
 $m = 1.5$   
 $50 = 1.5X$   
 $\frac{50}{1.5} = \frac{1.5X}{1.5}$   
 $X = 33.3$

Graph:  $y = \frac{1}{x-2} - 3$

D:  $X \neq 2$   
 R:  $Y \neq -3$

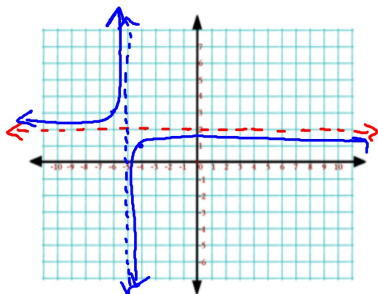
Right 2  
 Down 3



Graph:  $y = \frac{9}{x+5} + 2$

D:  $x \neq -5$   
 R:  $y \neq 2$

Left 5  
 up 2  
 Reflected



Graph:  $y = \sqrt{-(x-2)}$

Reflect over y-axis  
 Right 2

