

## Study Guide Answers. DV

- 1) You can find the constant by looking for  $k$  in the equation  $y = kx$  or  $\frac{y}{x}$ .
- 2) ② The graph always goes through the origin  $(0,0)$ . ③ You will see a straight pattern.

3) Solve

1) cross  $x$

2)  $\div$  by the number with the variable.

$$\frac{64}{x} = \frac{2}{5}$$

$$2x = 320$$

$$x = 160$$

$$\frac{64}{320}$$

$$\begin{array}{r} 160 \\ 2 \overline{) 320} \\ \underline{-2} \phantom{0} \\ 12 \\ \underline{-12} \\ 0 \end{array}$$

4)  $y = 14x$   
 $56 = 14x$   
 $x = 4$

$$14 \overline{) 56} \begin{array}{r} 4 \\ -56 \\ \hline 0 \end{array}$$

Using  $y = 14x$ , what is the value of  $x$  if  $y = 56$ ? (plug in)

5)  $\frac{y}{x} = \frac{45}{3} = \frac{30}{x}$   
 $90 = 45x$   
 $x = 2$

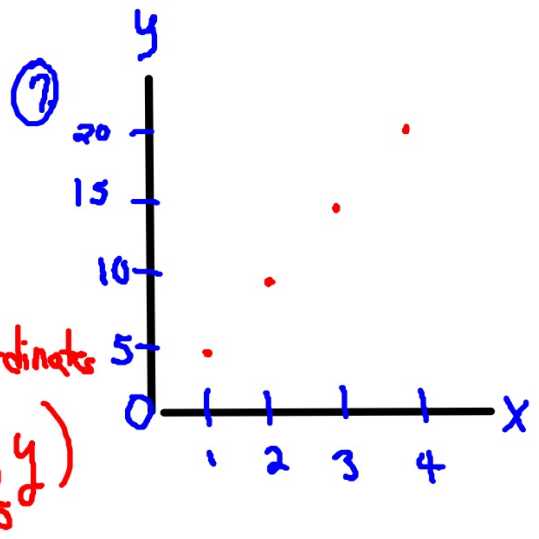
$$45 \overline{) 90} \begin{array}{r} 2 \\ -90 \\ \hline 0 \end{array}$$

If  $y$  varies directly

6)  $y = 5x$

x	0	1	2	3	4
y	0	5	10	15	20

$0 \times 5 = 0$      $1 \times 5 = 5$      $2 \times 5 = 10$      $3 \times 5 = 15$      $4 \times 5 = 20$



8.)  $\frac{\$}{\text{lawn}} = \frac{30}{1} = \frac{x}{8}$

9) jumping jacks #min

x	y
0	0
50	1
100	2
150	3

$$\frac{1}{50} = \frac{y}{x} = \frac{1}{50}$$

$$\frac{2}{100} = \frac{1}{50}$$

$$\frac{3}{150} = \frac{1}{50}$$

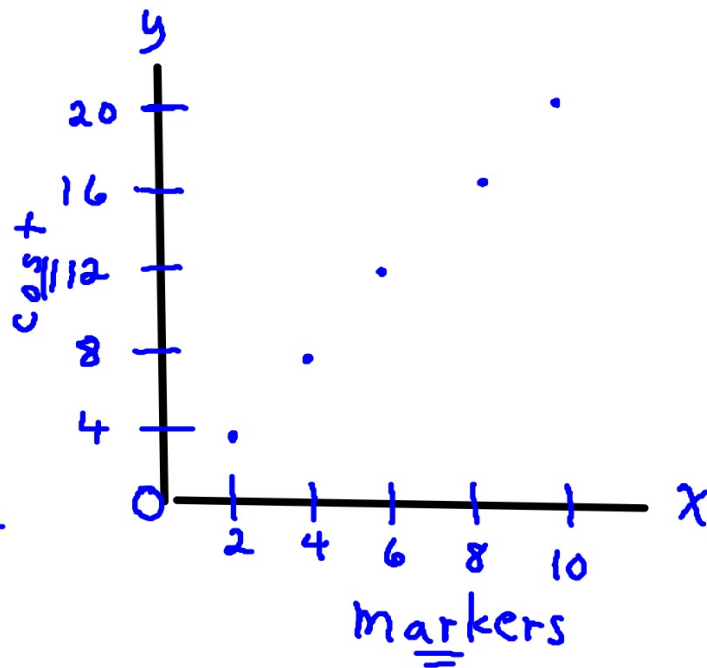
$$k = \frac{1}{50}$$

$$y = \frac{1}{50}x$$

10.)

markers	cost	
X	Y	
0	0	
2	4	$\frac{4}{2}=2$
4	8	$\frac{8}{4}=2$
6	12	$\frac{12}{6}=2$
8	16	$\frac{16}{8}=2$
10	20	$\frac{20}{10}=2$

$k=2$



\* Do not connect dots because you can not buy  $\frac{1}{2}$  of a marker.

$$11) \quad \frac{n}{15} = \frac{5}{3}$$

$$3n = 75$$

$$n = 25$$

$$14) \quad \frac{\text{pills}}{16} = \frac{3}{15} = \frac{x}{10}$$

$$15x = 30$$

$$\boxed{x = 2 \text{ pills}}$$

$$12) \quad \textcircled{c} \quad y = 12x$$

$$x = 4 \quad 48 = 12(4)$$

$$y = 48 \quad 48 = 48$$

$$15)$$

X	0	1	2	3	4
Y	0	4.2	8.4	12.6	16.8

$$y = 4.2(3) \quad 4.2$$

$$y = \quad \quad \quad \underline{12.6}$$

$$13) \quad \frac{y}{x} = \frac{144}{24} \quad y = 6$$

$$\boxed{y = 6x}$$

$$24 \overline{) 144} \quad \begin{array}{r} 6 \\ \underline{144} \\ 00 \end{array}$$

$$16.) y = kx$$

X	Y	
1	5	$\frac{5}{1} = 5$
2	10	$\frac{10}{2} = 5$
3	15	$\frac{15}{3} = 5$
4	20	$\frac{20}{4} = 5$
5	25	$\frac{25}{5} = 5$

$$k = 5 \text{ so}$$

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

$$17.) \frac{y}{x} = \frac{9}{7} = \frac{45}{x} \quad \begin{array}{r} 3 \overline{) 45} \\ \underline{31} \phantom{5} \\ 14 \phantom{5} \\ \underline{14} \phantom{5} \\ 5 \phantom{5} \\ \underline{5} \\ 0 \end{array} \quad \begin{array}{r} 9 \overline{) 315} \\ \underline{27} \phantom{5} \\ 45 \phantom{5} \\ \underline{45} \\ 0 \end{array}$$

$$9x = 315$$

$$\boxed{x = 35}$$

$$18.) \textcircled{D} \quad 2x = y \quad (y = kx) \text{ reversed}$$

$$19.) \frac{\text{hr}}{\text{cl}} \quad \frac{20}{1} = \frac{x}{1.5} \quad \begin{array}{r} 1.5 \\ \underline{20} \\ 300 \\ \underline{300} \\ 0 \end{array}$$

$$\boxed{x = 30 \text{ min}}$$



