

Constant
of
Proportionality

From a
GRAPH

From a
TABLE

From an
EQUATION

Constant

of

Proportionality

→ The constant of proportionality is the constant
ratio of y to x.

→ In this case, **constant** means at the same rate.

→ Represented by the letter k.

→ $k = \frac{y}{x}$

**Can be a integer, fraction, or
decimal **

If the relationship is NOT proportional, then there is NO constant proportionality

From a

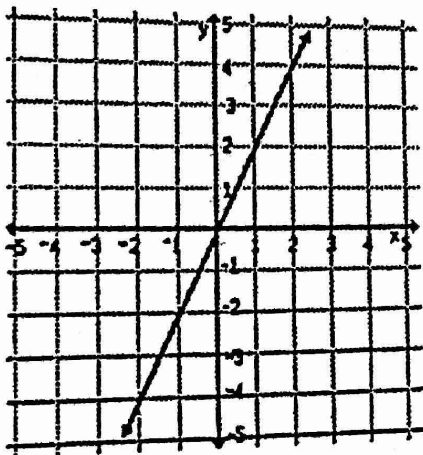
GRAPH

f

→ The graph must be linear AND pass
through the origin represented by coordinates
(0,0).

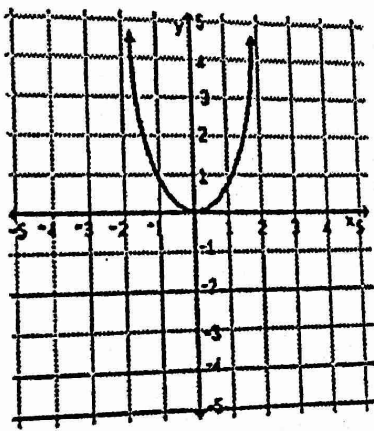
→ $k = \frac{y}{x}$

**The ratio must be in simplest form **



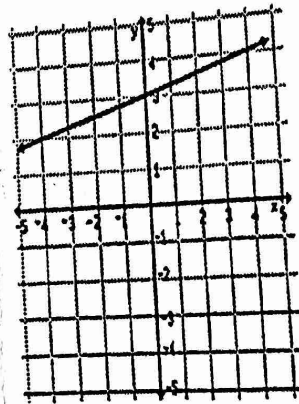
Prop/Not Prop

$k = 2$



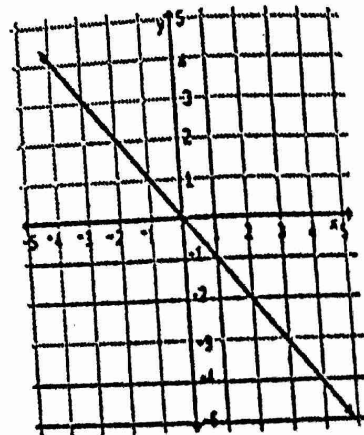
Prop Not Prop

$k = N/A$



Prop/Not Prop

$k = N/A$



Prop/Not Prop

$k = -1$

From a

TABLE

→ Make a ratio of y to x for All ordered pairs

→ Exception: do not have to make a ratio when y is zero. Simplify.

→ All ratios the same? Proportional

→ Different ratios? Not proportional

→ $k = \frac{y}{x}$ in Simplest form.

x	y
0	0
1	3
2	6
3	9
4	12

3

3

3

3

Prop/Not Prop

k = 3

x	y
0	1
1	3
2	5
3	7
4	9

Prop/Not Prop

k =

x	y
-2	-3
4	6
8	12
12	18
16	24

1.5

1.5

1.5

1.5

1.5

Prop/Not Prop

k = 1.5

x	y
-1	-2
0	0
1	2
2	4
3	9

2

2

2

3

Prop/Not Prop

k =

From an

EQUATION

- E

→ Proportional equations must be in the form $y = Kx$,
where k is the constant

→ $k =$ the coefficient of x
(# in front of variable)

$$y = 10x$$

Prop/Not Prop

$$k = 10$$

$$y = 3.2x$$

Prop/Not Prop

$$k = 3.2$$

$$y = 3x + 4$$

Prop/Not Prop

$$k =$$

$$y = \frac{5}{3}x$$

Prop/Not Prop

$$\frac{5}{3} \text{ or } 1\frac{2}{3}$$

$$y = 7 - 4x^2$$

Prop/Not Prop

$$y = -9x$$

Prop/Not Prop

$$k = -9$$