

THE CONSTANT OF PROPORTIONALITY



Go to student.desmos.com, get the class password from your teacher, and do the Desmos activity called Constant of Proportionality.

1. In the table below, what appears to be the constant of proportionality? **4**

x	0	3	6	10	2.5	150
y	0	12	24	40	10	600

2. Given the following ordered pairs, what appears to be the constant of proportionality? **2.5**

(0, 0) (2, 5) (10, 25) (1, 2.5)

3. In as much detail as you can, describe the graph of a line with a constant of proportionality of $\frac{1}{2}$. **It is a line that goes through (0, 0). It goes through the points (1, $\frac{1}{2}$), (2, 1), (3, $1\frac{1}{2}$), (4, 2), etc.**

Each x-value times $\frac{1}{2}$ gives the corresponding y-value.

4. Write the numbers that might come next in the table below, determine if there is a constant of proportionality, and explain your reasoning. **There is no constant of proportionality. There is no constant value to multiply by x in each case to get y.**

x	1	2	3	4	5	6	7
y	1	4	9	16	25	36	49

5. Assume that at both stores in the tables below you can buy any number of Healthy Crunch bars you like at these prices: 2 for \$2.50 at Barter Jacks and 4 for \$4.20 at Quigley's. Fill in the tables to collect data on this product from these two stores.

For each table, write the constant of proportionality (k), and describe whether this number is the same or different than the unit price (price per one bar). **Entries may vary.**

Healthy Crunch: Barter Jack's	
quantity	price
2	2.50
1	1.25
4	5.00
5	6.25
10	12.50
Value for k : 1.25	

Healthy Crunch: Quigley's	
quantity	price
4	4.20
1	1.05
2	2.10
5	5.25
10	10.50
Value for k : 1.05	

The unit price is equal to the constant of proportionality.