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## Proportional

If one is doubled, then the other will double.

Price of bulk food is proportional. If you double the weight, then the cost will double. If you triple the weight, then the cost will triple.

Human growth is not proportional. If you double your age, your height won't double. If you triple your age, you won't be three times as tall.

## Proportional Relationship

If one is doubled, then the other will double.

### **Is It Proportional?**

A single ticket to a concert costs \$56, while buying five tickets costs \$250. Is the relationship between the number of tickets bought and the total price proportional?

NO, since five tickets is not five times the cost of one ticket.

## Proportional Relationship

If one is doubled, then the other will double.

### **Is It Proportional?**

Vu is four years older than his sister. Is the relationship between Vu and his sister's age proportional?

No. Doubling Vu's age does not double his sister's age.

If Vu is 10, then his sister is 6. Ten years later, Vu's age will be double at 20, but his sister will be 16 and more than doubled.

## Is It Proportional?

Carl just bought a music player and plans to load 50 songs each week. Is the relationship between the number of weeks after Carl bought the music player and the number of songs on his player proportional?

Yes. If you double the number of weeks, then you double the number of songs.

## **Is It Proportional?**

Janna runs at a steady pace of 7 minutes per mile. Is the relationship between the number of miles she ran and the distance she covered proportional?

Yes. If you double the number of miles, then you double the number of minutes.

## **Is It Proportional?**

Anna has a new video game. It takes her five hours of playing the game to master level one. After so much time, Anna understands the game better and it only takes her three hours of playing the game to master level two. Is the number of hours played and the game level proportional?

No. Doubling the game level did not double the amount of time.

Kaci loves cheese and buys it whenever she can. Recently, she bought 5 pounds of mozzarella cheese for \$15.00 and 3 pounds of havarti for \$7.50.

Record both purchases in the data tables.

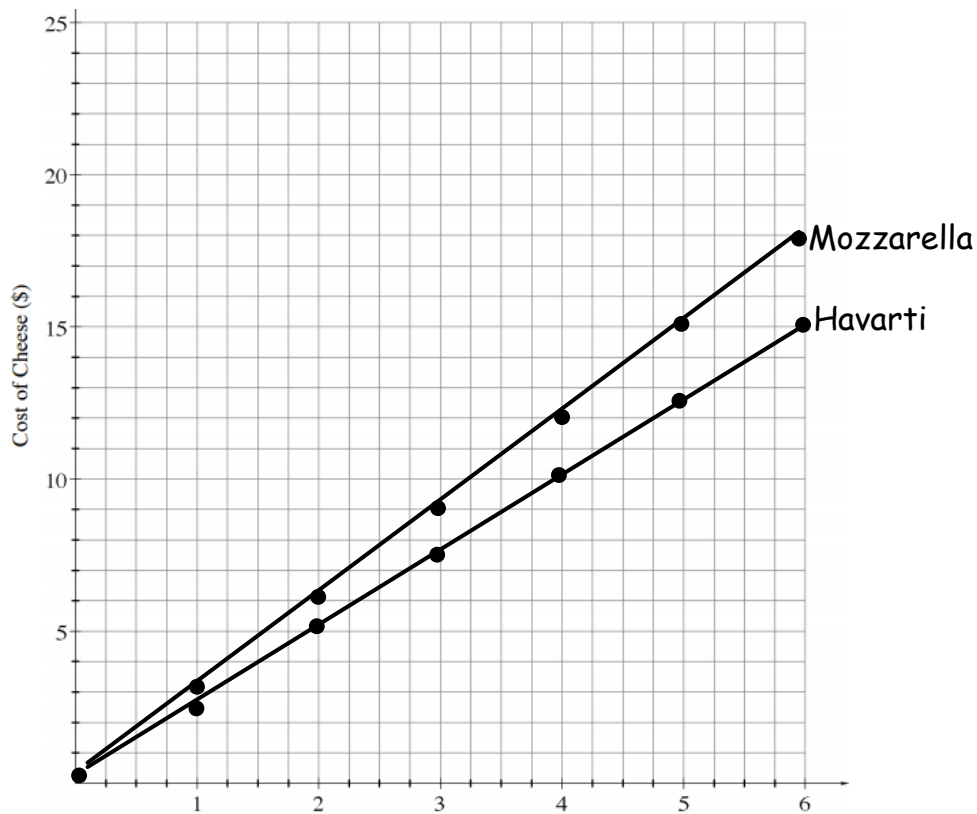
Mozzarella	
Weight (pounds)	Cost (\$)
5	15
6	18
7	21
8	24
9	27
10	30

Havarti	
Weight (pounds)	Cost (\$)
3	7.50
2	5
1	2.50
4	10
5	12.50
6	15
0	0



Plot the points on your graph. Which points should be connected?

Label each line with the type of cheese.



What is the unit rate for Mozzarella? =  $\frac{\$3}{1 \text{ lb}}$

What is the unit rate for Havarti?  
\$2.50

$\frac{\cdot}{1 \text{ lb}}$



