Name: _____ Date: _____

Aim: What is a proportional relationship?

Do Now

1. John spent $37.00 on 13 gallons of gasoline. What did he pay per gallon?

2. Sara can run 1.5 miles in 12 minutes. Rachel can run 3.2 miles in a half hour.
   a.) How many miles per **hour** does Sara run?

   b.) How many miles per **hour** does Rachel run?

   c.) Who is the faster runner and by how many miles per **hour**?

Proportionality in Tables

1.) The table shows the total cost of movie tickets based on the number of tickets you buy. Is there a proportional relationship between the total cost of tickets and the number of tickets purchased?

total cost of tickets($)	8	16	24	32
number of tickets	1	2	3	4

- When a relationship is proportional, the unit rate is called the _____.

2.) What is the constant of proportionality in example 1?

3.) The table below shows the total cost depending on the number of family members who attend a picnic. Is there a proportional relationship between the total cost and the number of family members attending?

total cost ($)	7	8	9	10
number of family members	1	2	3	4

4.) What is the constant of proportionality in this example?

- Determining whether a table is proportional: _____

_____

- Finding the constant of proportionality: _____

_____

For each table below, state whether the relationship is proportional. Then, state the constant of proportionality if one exists.

x	12	18	24	36	48
y	2	3	4	6	8

x	12	9	8	6	4
y	2	3	4	6	8

Time(hours)	Distance (miles)
1	65
2	120
3	195
4	220
5	300

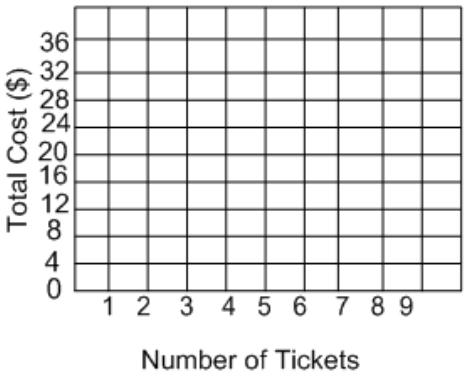
Time(hours)	Distance (miles)
1	50
2	100
5	250
7	350
8	400

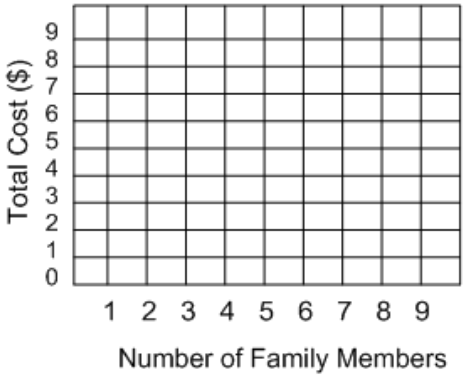
Proportionality in Graphs

total cost of tickets($)	8	16	24	32
number of tickets	1	2	3	4

total cost ($)	7	8	9	10
number of family members	1	2	3	4

Plot the values from the tables below onto the graphs provided.





Proportional Relationships (Graphs)

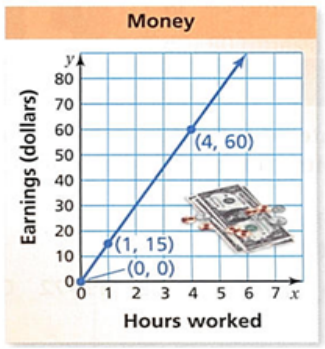
Characteristics of a proportional graph:

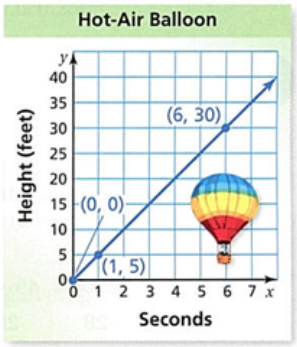
-
-

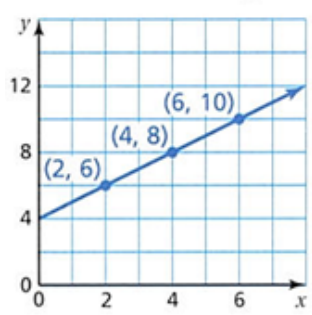
Finding the constant of proportionality in a graph:

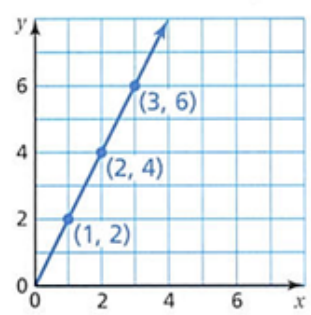
-
-

State whether each of the graphs is a proportional relationship. Then, write the constant of proportionality if one exists.









Take-Away

- **To tell whether a table is proportional, make sure that all _____ are equivalent.**
- **To find the constant of proportionality in a table, find the _____.**
- **To tell whether a graph is proportional, make sure it is a _____ going through the _____.**
- **To find the constant of proportionality, either look at the point _____ or divide _____.**