

WARM UP Copy and Complete

Wednesday (A)
January, 2017

AGENDA

- WARM-UP
- Rates and Proportional Relationships

*****Bring in sales papers for future activity!**

Create a Frayer Diagram for each vocabulary term:

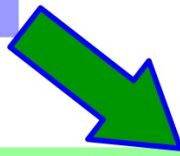
tax
tip
commission
gratuity
fee
discount
credit
mark-up
mark-down
percent error

WHEN YOU ARE DONE

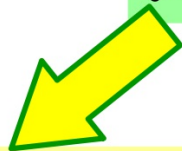
Describe a proportional relationship using words and examples..

USE YOUR NOTES

Unit Rate



Rate of Change



**Constant of
Proportionality**

**Topic:
Rates of
Change (Slope)**

Lesson Essential Question:

How can we identify rates of change and slope using a graph, table or equation?

What is rate of change?

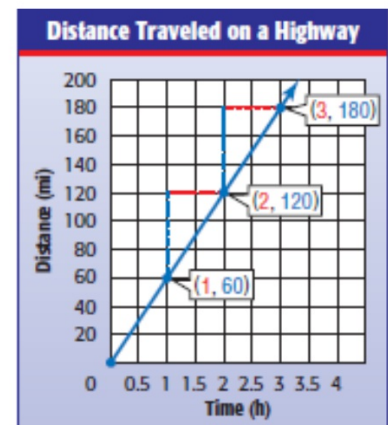
describes how a quantity changes in relation to another. Usually expressed as a unit rate.

What is constant of proportionality?

the rate of change between two points on a line.

What does this look like?

Cars Washed		
Number		Money (\$)
5	$\times 8$	40
10	$\times 8$	80
15	$\times 8$	120
20	$\times 8$	160



Show whether each chart represents a proportional relationship or not.

1)

Savings Account	
Week	Account Balance (\$)
1	125
2	150
3	175
4	200

2)

Cooling Water	
Time (min)	Temperature (°F)
5	95
10	90
15	85
20	80

3)

Calories in Fruit Cups	
Servings	Calories
1	70
3	210
5	350
7	490

4)

Pizza Recipe	
Number of Pizzas	Cheese (oz)
1	8
4	32
7	56
10	80

**USING
TABLES**

Katrina wants to purchase a new color photo printer. The table shows the number of color pictures the printer can print.

Printer Speed	
Time (min)	Printed Photos
1	14
2	28
3	42
4	56

Is the number of photos printed proportional to the number of minutes? Explain your reasoning

**STOP &
THINK**

What is a proportion? How do I know when something is proportional or not?

**HOW TO
SOLVE...**



WARM UP

Thursday (A)
January 5, 2017

Clever → **Castle Learning**

5 Questions, 15 minutes

AGENDA

- WARM-UP
- Rates and Proportional Relationships

***** Bring in sales papers for future activity!**

When you finish, continue working on Frayer Diagrams for Vocab words. Due MONDAY!

tax
tip
commission
gratuity
fee
discount
credit
mark-up
mark-down
percent error

Topic:
Proportional
Relationships

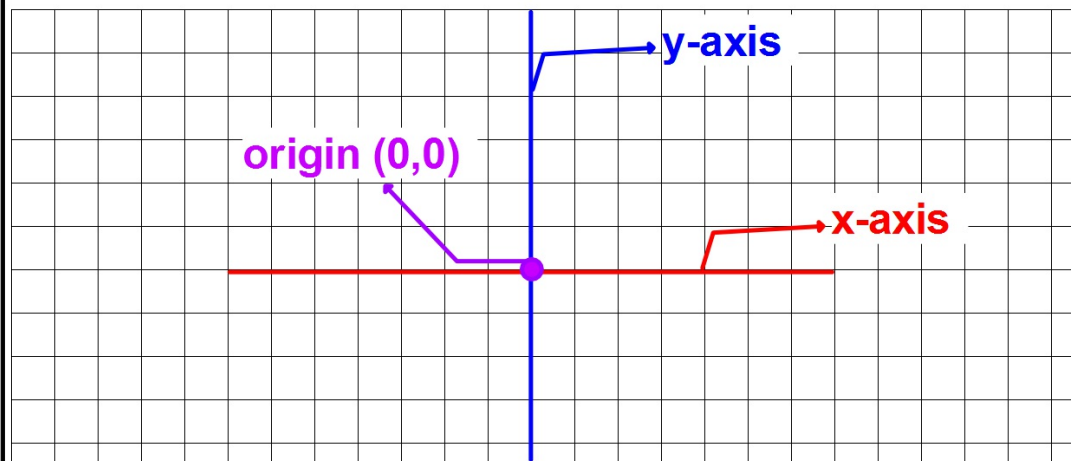
Lesson Essential Question:

How do you identify proportional and non proportional relationships using tables & graphs?



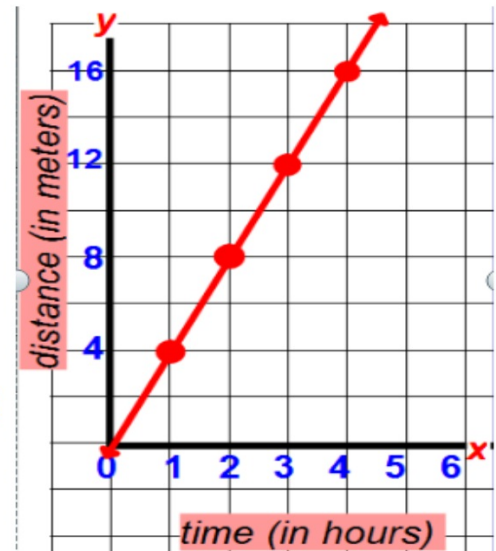
Key Vocabulary

- x-coordinate** a point located on the **x-axis**; independent variable
- y-coordinate** a point located on the **y-axis**; dependent variable
- coordinate plane** formed when the **x** and **y-axis** intersect at the **origin**. The coordinate plane creates four quadrants.
- Linear** a set of ordered pairs, connected to form a line



USING GRAPHS

Mr. Morrison is preparing for an upcoming marathon. He charts his progress on the graph to the right.



Does his graph represent a proportional relationship?
List 3 reasons why?

STOP & THINK

What is his independent variable?
What is his dependent variable?
Linear or not?

HOW TO SOLVE...

The the origin, so the distance that Mr. Morrison runs is to his time.

Fold this page in half, and graph each problem

Recognizing Proportional Relationships - Independent Practice Worksheet

Solve all the problems.

- 1) Drew is an artist. He paints portraits. The table below shows the number of portraits painted in hours. Do the numbers in the table represent a proportional relationship?

Number of portraits	Time (In Hours)
1	5
2	10
3	15
4	20



- 2) This table shows the amount earned by Harry for selling cups of ice cream. Do the numbers in the table represent a proportional relationship?

Cups sold (km)	Earnings (\$)
3	12
5	20
7	28
9	36

- 3) Fred wrote notes during an examination. The table below shows number of pages written in relation to the time it took to make the notes (in hours). Does the table represent a proportional relationship?

Notes (pages)	Time (In Hours)
8	16
9	18
10	20
11	23

- 4) Alice went to market and bought comics. The table below shows the price for different numbers of comics. Do the numbers in the table represent a proportional relationship?

Number of Comics	Price (Dollars)
2	6
4	12
6	16
8	24

- 5) A ferry has to transport bikes on an island. The table below shows the number of bikes transported and the number of trips made by ferry. Do the numbers in the table represent a proportional relationship?

Number of bikes	Number of trips
10	5
12	6
14	7
16	8

- 6) The table below gives the distance covered by a train over time. Do the numbers in the table represent a proportional relationship?

Distance (km)	Time (In Hours)
50	10
60	12
70	14
80	16

- 7) Daisy made an envelope from sheets of paper. The table below shows the number of envelopes made by the number of sheets. Do the numbers in the table represent a proportional relationship?

Number of envelopes	Number of sheets
1	2
2	4
3	6
4	12

Benchmark Today!

1) Warm up:

The table shows how much a store charges for certain numbers of pencils.

Number of pencils (p)	Cost (c)
4	\$0.72
7	\$1.26
12	\$2.16

Based on the table, which equation could be used to calculate the cost, c , of any number of pencils, p ?

- A $c = 0.09p$
- B $c = 0.18p$
- C $c = 0.54p$
- D $c = 0.72p$

2) Which expression is equivalent to $-4(x + 2) - \frac{1}{2}(2x - 6)$?

- A $-5x - 4$
- B $-5x - 5$
- C $-8x - 4$
- D $-8x - 5$

3)

Betty makes pies. To make 6 pies, she uses $7\frac{1}{2}$ cups of flour. How many cups of flour are needed to make 1 pie?

4) What is the solution to the inequality $-3x - 42 > 3$?

- A $x > -13$
- B $x < -13$
- C $x > -15$
- D $x < -15$

Benchmark

SchoolNet
test code:

A large red rectangular box used to redact information, likely the SchoolNet test code.

- When you are finished,**
- 1) Complete on Vocabulary Frayer Diagrams**
 - 2) Khan Academy : two-step inequalities, solving proportions**