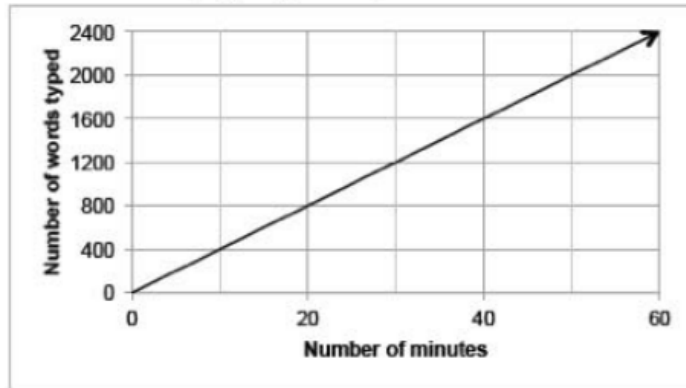Name_____   Date _____

Mr. Tallman

Do Now

The graph below shows the number of words Donald typed over a 60 minute period of time.

A) Explain why the graph above shows a proportional relationship.

_____

B) Find the unit rate of the graph. Show work.

C) What does the unit rate mean in the context of the situation?

_____

D) Write an equation (y = kx) that models the relationship shown in the graph. _____

E) Using the equation from part D, if Donald types for 75 minutes, how many words does he type? Show work.

F) Using the equation from part D, if Donald types 1,700 words, how many minutes did he type for? Show work.

Lesson #30 – Identifying Proportional Relationships Using Words, Tables and Graphs

Words

In Bubba's nine floor apartment complex, there are a total of 54 apartments. How many apartments per floor are there?

Equation

Use the information from the word problem to write an equation in y = kx form.
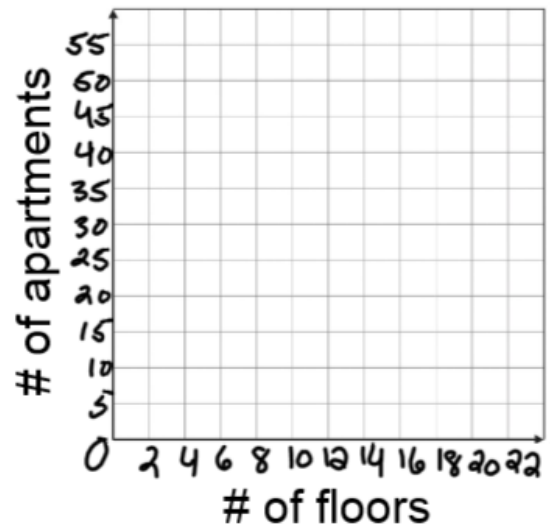
Proportional Relationships

Table

Use the information from the word problem to complete the table.

# of floors	1	2		6	9
# of apartments			30		

Graph

Use the information from the word problem to complete the graph.

# of apartments (y-axis: 5, 10, 15, 20, 25, 30, 35, 40, 45, 50, 55)

# of floors (x-axis: 2 4 6 8 10 12 14 16 18 20 22)

Example 1) A scientist measured the total distance, in feet, that a grasshopper traveled in 3 jumps.

Jumps	0	1	2	3
Distance in Feet	0	1.5	3	4.5

Part A) Is the relationship between jumps and feet proportional? Explain why or why not.

Part B) If the relationship is proportional, what is the constant of proportionality? _____

Part C) Write an equation to represent the relationship._____

Part D) Using the equation from part c, how many jumps will it take for the grasshopper to move 9 feet? Show all work.

Part E) Graph the table of values on the coordinate plane below.

Part F) What are the coordinates of

the unit rate? _____

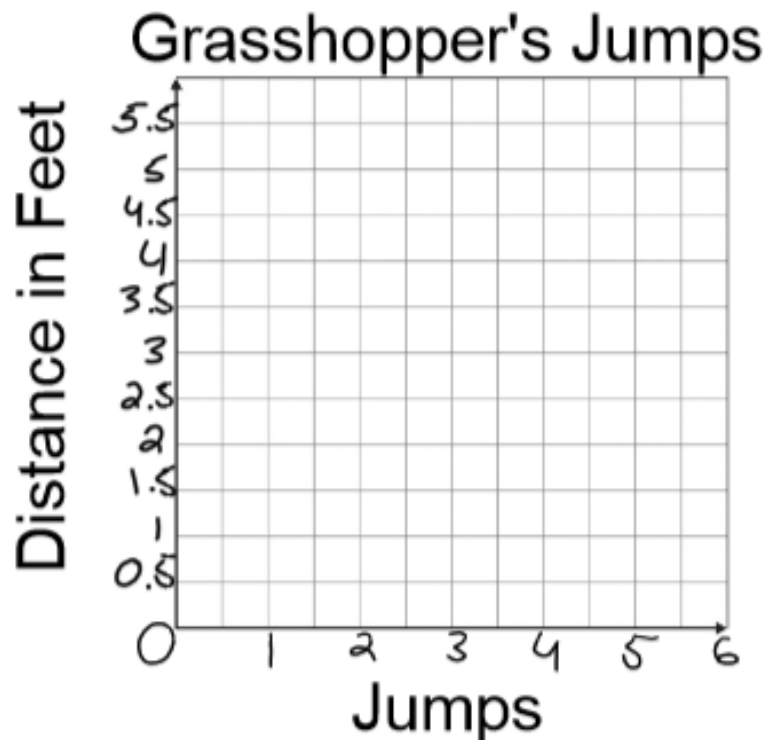Part G) Explain what the unit rate means

in the context of the problem.

_____

_____
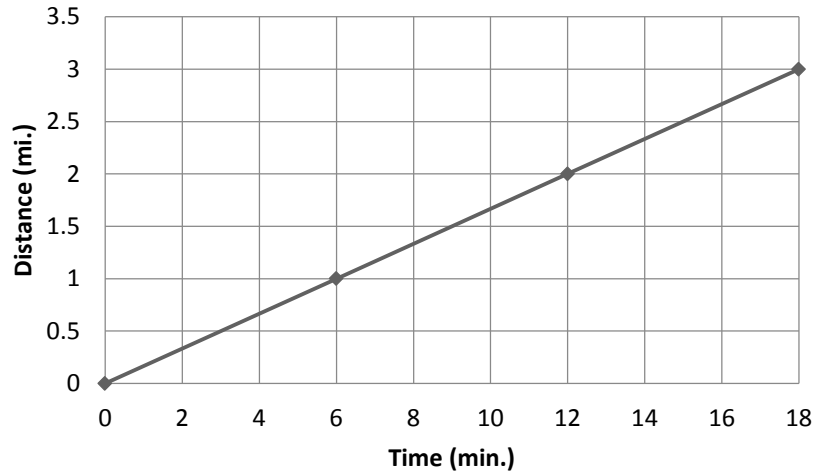
_____

Part H) What does the point (2, 3) represent

in the context of the problem?

_____

Grasshopper's Jumps

Distance in Feet

5.5
5
4.5
4
3.5
3
2.5
2
1.5
1
0.5

O   1   2   3   4   5   6

Jumps

Example 3) A track and field coach wants to give one of his players an award for the athlete who has the greatest rate of speed over a distance. He has narrowed down his choice to two athletes, Danielle and Catherine.

Catherine's speed is shown on the graph below.

Part A) At what rate did Catherine run in miles per minute? Show all work.

Part B) Danielle ran 2 miles (y) in 13 minutes (x). What is Danielle's unit rate?
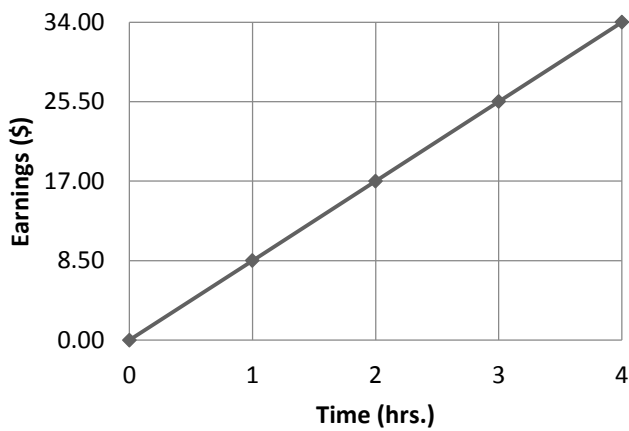
Part C) Who should the coach give the award to? Why?

_____

_____

Example 5) Ryan's earnings per hour from a part time job are shown in the table below.

Time worked (hrs.) (x)	9	12	15	18
Total Pay ($)	$67.50	$90.00	$112.50	$135

Part A) What is Ryan's rate of pay (Dollars per hour)? Show all wor.

Part B) What is the equation that represents how Ryan is paid?_____

Jason's earnings per hour are represented by the graph below.

Part C) What is Jason's rate of pay (Dollars per hour)?

Who gets paid more per hour? Why?