Unit 2 Day 1 – 4 Review Worksheet #2

Comparing Functions

Name_____

Date _____ Hour_____

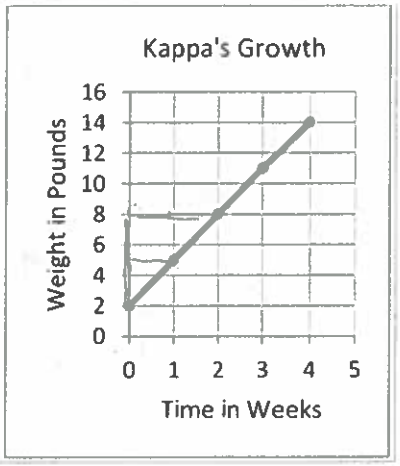
Read each situation, then answer the questions by analyzing and comparing the different linear situations.

Situation #1: The Metropolis Zoo recently celebrated the birth of two new baby pandas.

Mochi the panda cub has been measured and weighted each week since she was born.

Weeks	Weight (pounds)
0	1
1	5
2	9
3	13

Mochi's brother is **Kappa**. His weight has been charted on the graph below.



1. Which panda was heavier when born? Kappa

2. How fast is Mochi growing (rate of change)? 4 lbs per week

   How fast is Kappa growing (rate of change)? 3 lbs per week

3. Which panda will weigh more at 5 weeks? Mochi: $4 \cdot 5 = 20 + 1 = 21$

   Kappa: 17

Situation #2: Two contestants on Biggest Loser are Valerie and Oscar. Their weight loss is shown below.

Valerie's weight loss is shown by this function, where W is her weight in pounds and t is time in weeks.

$$W = 235 - 2.5t$$

Oscar's weight loss is tracked in the table.

Weeks	0	2	5	6
Weight	247	243	237	235

1. Who weighed more at the beginning of the show? Oscar

2. How much weight is Valerie losing per week (rate of change)? 2.5 lbs per week

3. How much weight is Oscar losing per week (rate of change)? ~~2~~ lbs per week

4. Who is losing weight faster? Valerie

Situation #3: Mr. Rich planted a crop of money trees in his garden. Find the rate of change for each plant.

Tree A

The first tree was 5 inches tall when planted. It has grown four inches every month since being planted.

Tree B

Measurements were taken of the second tree and given below.

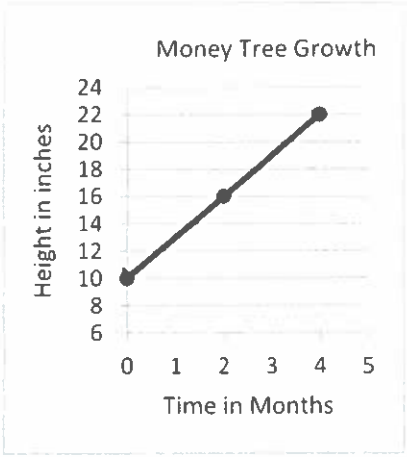
Months	0	2	3	5
Height (in)	3	12	16.5	25.5

2, 1, 2, 1, 6

9, 4.5, 9, 4.5, 30

6/2

Tree C



25→75

28→4

1. How fast is each tree growing? Find the rate of change for each tree.
   Tree A? 4 in every month Tree B? 4.5 in every month Tree C? 3 in every month
2. Which tree was the tallest when it was first planted? C
3. How tall is each tree after 6 months? Which tree is the tallest?

A/ 4.6 = 24 + 5 = 29 B/ 4.5 + 25.5 = 30 C/ 28 in

Situation #4: Tony is the best deliveryman in the city. He has been offered jobs by the best pizza places.

Little Squeezer's showed Tony a table of salaries.

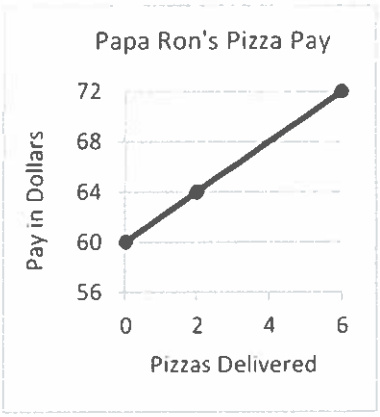
Pizzas	0	2	4	10
Salary	48	54	60	78

2, 2, 6

Pizza Tent has given Tony his pay options in the following function. S represents Tony's salary, and p represents the number of pizzas he delivers.

$$S = 2.75p + 52$$

Papa Ron's made their offer in the form of a graph.



1. Which company pays the most per shift? Papa Ron's
2. How much does each pizza place pay per pizza delivered? Find the rate of change for each place.
   Little Squeezers? $3 each Pizza Tent? $2.75 each Papa Ron's? $2 each
3. Challenge: If Tony is going to deliver at least 20 pizzas every night, which company should he work for?

LS/ 20 · 3 = 60 + 48 = 108 Little Squeezers

PT/ 20 · 2.75 = 55 + 52 = 107

PR/ 20 · 2 = 40 + 60 = 100