

Comparing Graph Pairs

NAME _____

1. For all graph pairs completed by the class, identify the function type. List any characteristics of the graphs or movements unique to the function type. (**Note:** Some function types may be left blank.)

FUNCTION TYPE	GRAPH PAIRS	CHARACTERISTICS OF GRAPHS	CHARACTERISTICS OF MOVEMENTS
linear			
exponential			
quadratic			
piecewise			

2. a) Which functions had constant movement and which functions had variable movement?

b) How is this reflected in the shape of the graph?

3. a) Were there any graphs you were unable to create? Which?

b) Why were you unable to create these graphs? (**Hint:** Think about what the axes represent — time and distance.)

c) How could you tell that you could not create them by looking at the equations?

Answer Key – Comparing Graph Pairs

1. For all graph pairs completed by the class, identify the function type. List any characteristics of the graphs or movements unique to the function type. (**Note:** Some function types may be left blank.)

FUNCTION TYPE	GRAPH PAIRS	CHARACTERISTICS OF GRAPHS	CHARACTERISTICS OF MOVEMENTS
linear	[1 to 6]	[only lines or line segments]	[constant movement]
exponential	[7]	[always increasing or decreasing]	[variable movement in same direction]
quadratic	[8, 9]	[change direction at some point]	[variable movement with a change in direction]
piecewise	[5, 6]	[made of pieces that behave independently]	[type of movement changes]

2. a) Which functions had constant movement and which functions had variable movement?

The linear functions had constant movement. The other function types had variable movement.

- b) How is this reflected in the shape of the graph?

Constant movement is shown with lines or line segments. Variable movements is shown with curves.

3. a) Were there any graphs you were unable to create? Which?

graphs 4B and 9B

- b) Why were you unable to create these graphs? (**Hint:** Think about what the axes represent — time and distance.)

They required being more than one distance from the motion detector simultaneously.

- c) How could you tell that you could not create them by looking at the equations?

The equations are of the form $x =$, not $y =$. The dependent variable is x , not y .