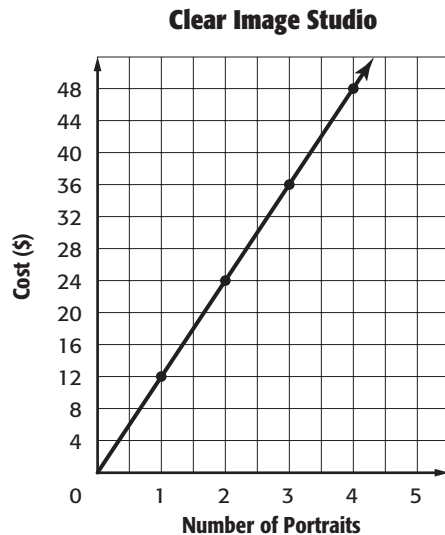# Lesson 5 Homework Practice
Compare Properties of Functions

1. PORTRAITS Paolo's Portraits charges $15 per photo with no sitting fee. The graph shows the fees for Clear Image Studio. Compare the functions by comparing their rates of change.

Clear Image Studio

Cost ($) vs **Number of Portraits**

Paolo's Portraits is $15 per photo and Clear Image Studio is $12 per photo. Paolo's Portraits has the greater rate of change.

2. COMMISSION Joshua earns a salary plus a commission for every painting he sells. The equation $c = 40p + 75$, where c is the commission in dollars and p is the number of paintings, represents how much he earns. Martin's commissions are shown in the table. Compare the functions by comparing their y-intercepts and rates of change.

Number of Paintings Sold	1	2	3
Commission ($)	115	150	185

The *y*-intercept of Joshua's earnings equation is 75 and Martin's is 80. The rate of change for Joshua's equation is 40 while Martin's is 35.

3. TOLL ROADS The table shows the cost for traveling on a toll road in Henderson. The graph shows the cost of traveling on a toll road in Clarkson. Compare the linear functions to determine which is a direct variation. Justify your response.

Henderson Toll Road Costs	
Miles Traveled	**Cost ($)**
10	3
20	6
30	9

Clarkson Toll Road Costs

Cost ($) vs **Miles Traveled**
(15, 5.75)
(10, 4.50)
(5, 3.25)

The ratio of miles traveled to cost for the Henderson Toll Road is a constant ratio and the graph would pass through the origin. It is a direct variation. The graph for the Clarkson Toll Road costs does not travel through the origin, so it is not a direct variation.