Name: _____ Date: _____

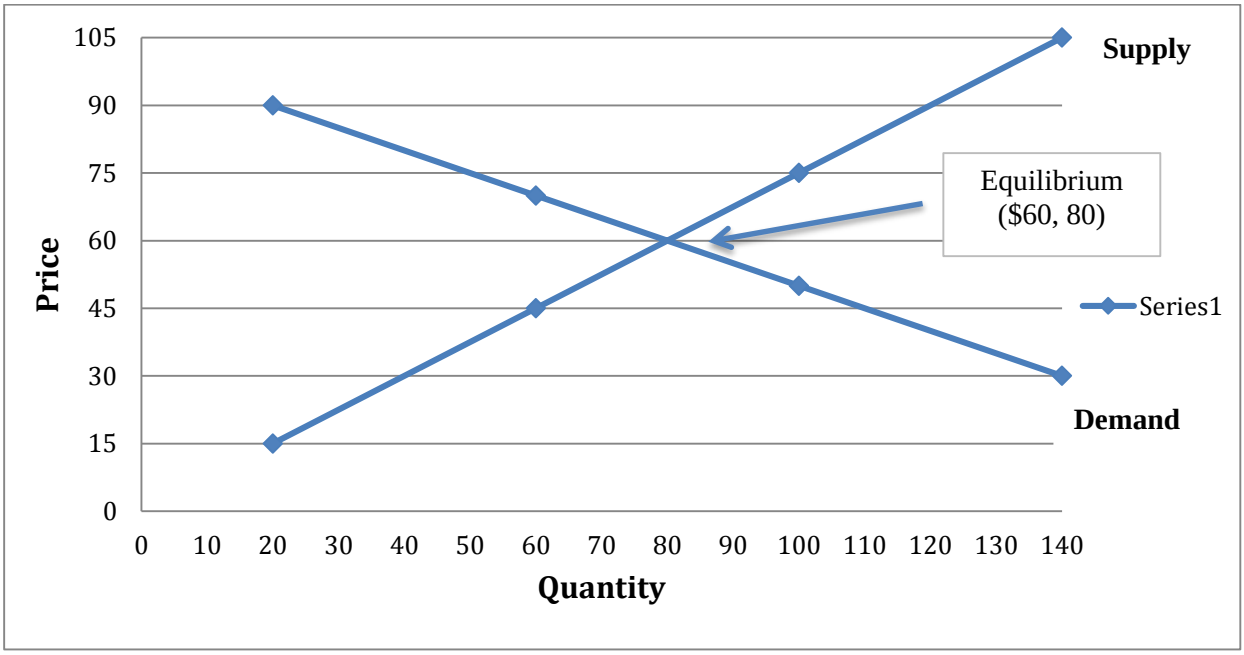
Activity 2 – Guided Practice

Use the data below to graph the supply and demand curves then find the equation of the lines. Be sure to label the graph clearly.

Price (y axis)	Quantity Demanded (x axis)
90	20
70	60
50	100
30	140

Price (y axis)	Quantity Supplied (x axis)
15	20
45	60
75	100
105	140

Answer:



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a. Find the slope of the demand curve using two points from the demand function table:

$$M = \frac{y_2 - y_1}{x_2 - x_1} \qquad M = \frac{70-50}{60-100} = -\frac{1}{2} = -.5$$

b. Plug the slope (-.5) and one of the ordered pairs from the demand function table into $y = mx + b$ and solve for b

$$50 = -.5(100) + b \qquad 50 = -50 + b \qquad b = 100$$

c. Enter the slope and y intercept into the slope intercept form of the linear equation

demand (x) y=-.5x+100

d. Find the slope of the supply curve using two points from the supply function table:

$$M = \frac{y_2 - y_1}{x_2 - x_1} \qquad M = \frac{75-45}{100-60} = \frac{30}{40} = \frac{3}{4} = .75$$

e. Plug the slope (.75) and one of the ordered pairs from the supply function table into $y = mx + b$ and solve for b

$$75 = .75(100) + b \qquad 75 = 75 + b \qquad b = 0$$

f. Enter the slope and the y intercept into the slope intercept form of the linear equation

Supply (x) y=.75x

g. Set the equations equal to each other and solve for x to obtain the quantity.

$$-.5x + 100 = .75x \qquad 100 = 1.25x \qquad x = 80$$

h. Plug the result $x = 80$ back into either equation to obtain the value for y, which equals the equilibrium price.

y=.75x $\qquad y = .75(80) \qquad y = 60$

i. The intersection and equilibrium point is (60 price, 80 quantity)