

- 1) Survey at least 10 people to determine the price that would result in 0 customers. Record the information below:

Price, Customers Price, Customers
 0, 10 and ____, 0

- 2) Calculate and interpret the demand curve.

a) Explain how (0, 10) and (__ , 0) models the demand.

b) Graph the points (0, 10) and (__ , 0) model the demand for your product or service.

c) Write a linear equation passing through these points in intercepts form $\frac{1}{x-int}x + \frac{1}{y-int}y = 1$.

d) Re-write the equation in **part c** in standard form $Ax + By = C$.

e) Re-write the equation in **part d** in slope-intercept form $y = mx + b$.

f) What does the y-intercept “b” and the slope “m” indicate about the demand and price?

y-intercept:

slope:

- 2) Calculate and interpret the supply curve.

a) What is the lowest value you would sell you product at and how many would items would you sell? What is the lowest value you would sell you product at and how many would items would you sell?

Lowest: __, __

Highest: __, __

b) Graph the points (__ , __) and (__ , __) model the supply for lemonade.

c) What is the slope of the line containing the points $(_,_)$ and $(_,_)$?

d) What is the y-intercept of the line containing the points $(_,_)$ and $(_,_)$?

e) Use **part c** and **part d** to write the equation in slope-intercept form $y = mx + b$.

f) What does the y-intercept “ b ” and the slope “ m ” indicate about the demand and price?

y-intercept:

slope:

3) Answer the following questions:

a) How does the graph show the optimum price that should be charged for a _____?

b) What is the optimum price and how many _____ will sell at this price?

c) Determine this answer by using the graph features (Calc-Intersect) of your calculator.

d) Show this answer using algebraic reasoning with both the demand and supply equations.

e) Write inequalities that show prices that will cause a surplus in supply and prices that will cause a shortage in supply.

Name: _____ Class: _____ Self-Assessment: _____ Teacher-Assessment: _____

Checked Boxes: 1 = D-, 2 = D, 3 = D+, 4-5 = C-, 6 = C, 7 = C+, 8 = B-, 9 = B, 10 = B+, 11-12 = A-, 13 = A, 14 = A+

Assignment		Supply & Demand Extension Lessons 2.1, 2.2, 2.3 Review (Linear Forms)
Learning Target		Identify how different linear forms can be used to represent or model given information.
Success Criteria		Students will use intercepts, slope-intercept and standard forms of linear equations to develop models of the supply and demand for a given product or service.
Self	Teacher	EC for accurately assessing yourself
4 or A+ (mastery)		
		4.4 Inequalities correctly show prices that cause a SHORTAGE in supply and prices that cause a SURPLUS in supply.
		4.3 ALGEBRAIC REASONING shows the optimum price and number of items sold.
		4.2 The optimum price and number of items sold is identified using the GRAPH.
		4.1 (+2.4 & 3.4) The Y-INTERCEPT and SLOPE of both the DEMAND and SUPPLY equations are both clearly interpreted.
3 or B+ (mastery)		
		3.4 (+3.2 & 3.3) Algebraic reasoning shows how to write the equation of the supply curve in SLOPE-INTERCEPT form $y = mx + b$ or INTERCEPT-SLOPE form $y = b + mx$.
		3.3 Algebraic reasoning is used to find the Y-INTERCEPT of the supply curve.
		3.2 Algebraic reasoning is used to find the SLOPE of the supply curve.
		3.1 The points are plotted and used to plot the SUPPLY CURVE (line).
2 or C (basic proficiency)		
		2.4 Algebraic reasoning shows how to re-write the equation in SLOPE-INTERCEPT form $y = mx + b$ or INTERCEPT-SLOPE form $y = b + mx$.
		2.3 Algebraic reasoning shows how to re-write the equation in STANDARD form $Ax + By = C$.
		2.2 A linear equation in INTERCEPTS form $\frac{1}{x-int}x + \frac{1}{y-int}y = 1$ correctly models the data.
		2.1 The points are plotted and used to plot the DEMAND CURVE (line).
1 or D (some basic problems with minimal help)		
		Equations are created and accurately model the facts provided in the survey.
0.5 or D- (some basic problems with considerable help)		
		Equations are created, but do not accurately model the facts provided in the survey.
0 or E (displays no ability or understanding)		