

Algebraic Connections Fall 1999 Final Examination

DO NOT WRITE ON THIS EXAM!

Use your own paper, and/or the computer, to report the answers to the questions. Make sure you use the problem numbers, show all work, document your solutions, and include the answer to the question!
Name, Date, Period, and What it is.

1. During this examination, use at least one of the following technologies, in an effective attempt to solve one of the questions below. Use GroupWise, Graph Link, TI-Interactive!, and/or Graphical Analysis. Report the following information with your use: a) what problem you were solving, b) which of the technologies was used, and c) why you think this was an effective use of the technology to solve the problem.
2. Go to the Data and Story Library and do a Power Search for **Economics**. From the list of hits, select a story and give me the following information:
 - a) A link to the data and a summary of the story.
 - b) Make a Histogram, using a Window that is appropriate for one part of the data.
 - c) Describe the pattern revealed in the Histogram.
 - d) Give the Big 8 for the data set used to make the Histogram.

n	mean	median	mode	average	maximum	minimum	range
---	------	--------	------	---------	---------	---------	-------

3. Using the data from the FINAL program, answer the following. The X-values (**FX** or **L₁**) are time in hours and the Y-values (**FY** or **L₂**) are temperature in degrees Celsius.
 - a) Record exactly what you keyed in for your ID.
 - b) Provide a Scatter Plot of the data with a Window.
 - c) Determine the best Model for the graph and name it.
 - d) Give the best fit Bubble Baby equation and Graph.
 - e) Use your equation to predict the temperature after 1.759 hours, 77 hours, and 60 seconds before the start of the experiment.
 - f) When would the temperature be 7 degrees Celsius, according to your model?
 - g) Explain a situation that would produce this shape of graph.
 - h) Based on the results above, how confident are you that your model "fits" the event?
4. Calculate your grade on the 1st and 2nd 9 weeks Portfolios. Show your work. What will your grade in this class for the semester be if:
 - a) You make a 77% on the Final.
 - b) You make a 97% on the Final.
 - c) You had made 3's on Your Ability to Test items both 9 weeks and you make a 90% on the Final.

Item	1 st 9 weeks	2 nd 9 weeks
OverArching Process	XXXXXXXXXXXX	XXXXXXXXXXXX
7 Parts of AlgConn	XXXXXXXXXXXX	XXXXXXXXXXXX
Ability to Test	XXXXXXXXXXXX	XXXXXXXXXXXX
Technology	XXXXXXXXXXXX	XXXXXXXXXXXX
Growth	XXXXXXXXXXXX	XXXXXXXXXXXX
Free/Web	XXXXXXXXXXXX	XXXXXXXXXXXX
Journal	XXXXXXXXXXXX	XXXXXXXXXXXX

5. Find the following:

a) The slope of the line that passes through the points (21 , 1); (7 , 22); and (-11 , 49).

b) The equation of the line that contains the point (-12 , -25) and has a slope of 5/6.

c) Use Mental Math to solve this expression and explain what you did:

$$7M - 77 = 28$$

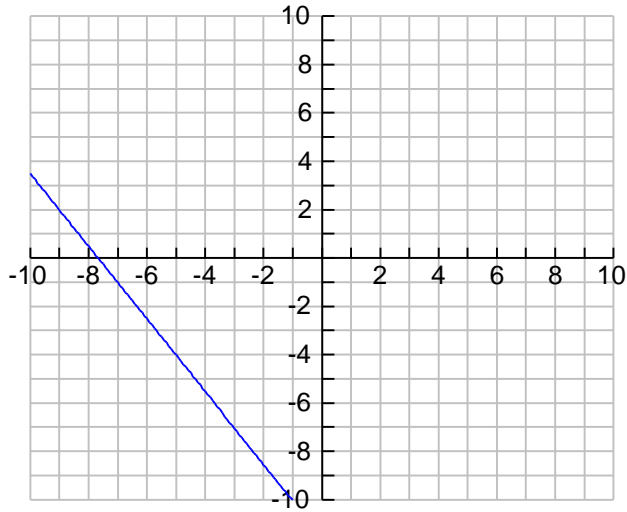
d) Solve for X;

$$-2X - 123 = 11$$

e) Rewrite as Y =

$$4X + 5Y = 20$$

6. Identify two points on the line below, and make a right triangle to calculate the slope of the line. Then use another method to verify this slope. Finally give the equation of the line.



7. Find the following information for:

$$y = 1 * |-2x - 10| + 25$$

a) Maximum or Minimum,

b) Slope of Right and Left sides,

c) Y-Intercept,

d) X-Intercept(s).

e) Explain the meaning of one of the above answers if x is the number of hours worked in a week, and y is your pay.