Possible 2-2 Activities

1. A baby blue whale weighs 303.89 pounds 3.5 months after birth and 476.78 pounds on its first birthday. Assuming that the weight of the whale grows at a constant rate,

a) Write an equation describing the relationship between weight and age. Be sure to state what your variables represent!

b) What is the slope of the line and what does it represent in the story (and what is the unit for the slope?)?

c) Predict how much the whale weighs 6.78 months after birth.

d) Predict when will the whale weigh 1000 pounds.

e) Find the y-intercept of the line. What does it represent in the story?

f) Find the x-intercept of the line. What does it represent in the story?

1. Suppose that the gas mileage of a vehicle is linearly related to its weight. A vehicle weighing 2100 pounds receives 34 miles per gallon while a vehicle weighing 5100 pounds receives 14 miles per gallon.
   1. Draw a graph of the relationship between the weight of a car (x) and its gas mileage (per gallon) (y). Be sure to label and scale your axes!
   2. Write an equation for the relationship.
   3. Use the equation to find what gas mileage a car weighing 3000 pounds should expect.
2. Use the equation to find how much a car should weigh to get 25 miles per gallon.
3. Describe what the slope represents in terms of what the variables stand for.
4. Find and describe what each intercept represents in terms of what the variables stand for.
5. Crazy Joe wants to buy a 9000 pound truck to rule the highway with. What will his gas mileage be? Comment.

3. Describe why the graph of the number of gallons of milk you can buy vs. the price of a gallon of milk cannot be linear.

4. Sequences: Is it linear or something else (2.1).

Also;

ORCCA: around p. 100: Several problems\_ given info of 2 lines. Find where equal or one greater than another. Several contexts.

S-Z; p.154: Find slope/int wrt Temp vs. time.

F(x) = (x^2-4)/(x-2): Maybe with function definition? And y= (3-2x)/4.

p. 159: Cost of producing x systems: several questions given formula.

p. 163-5: several contexts.

APC: p. 40: thru (4. 9) and parallel to 2x-3y = 5. Given graph, find formula.

p. 43 thru 49: Meaning of slope with odd units (chirps per minute vs. temperature). Swap x, y. Meanings of points.

Calc-medic: Sections 0.4 and 0.5

Yoshiwara: Linear models and linear functions: All forms. Use tables, graphs, formulas to answer questions in homework- several contexts.