1. While manufacturing two different camera models, Kodak found that the basic model costs $55 to produce, whereas the deluxe model costs $75. The weekly budget for these two models is limited to $33,000 in production costs. The linear equation that models this situation is 55x + 75y = 33,000, where x represents the number of basic models and y the number of deluxe models.

a) Clearly define your variables.

b) Complete the ordered pair solution (0,) of this equation. Describe the manufacturing situation this solution corresponds to.

c) Complete the ordered pair solution (, 0) of this equation. Describe the manufacturing situation this solution corresponds to.

d) If 350 deluxe models are produced, find the greatest number of basic models that can be made in one week. Write your answer in a complete sentence.

2. The cost of renting a piece of machinery is given by the linear function C(x) = 4x + 10, where C(x) is in dollars and x is given in hours.

a) Clearly define your variables.

b) Find the cost of renting the piece of machinery for 8 hours. Write your answer in a complete sentence.

c) Graph C(x) = 4x + 10

d) How can you tell from the graph of C(x) that as the number of hours increases, the total cost increases also?

e) Find and interpret C(2). Write your answer in a complete sentence.