Economics 101   ANSWERS
Economic Way of Thinking
Project 1

1. Suppose you have two hunting dogs, Chug and Chew. They can retrieve ducks and pheasants for you according to the following table:

	Number of Ducks Retrieved per hour	Number of Pheasants Retrieved per hour
Chug	12	24
Chew	9	27

a. Graph the production possibilities frontiers for Chug and Chew below. Assume constant opportunity costs and measure pheasants retrieved on the horizontal axes.

Chug   **Chew**
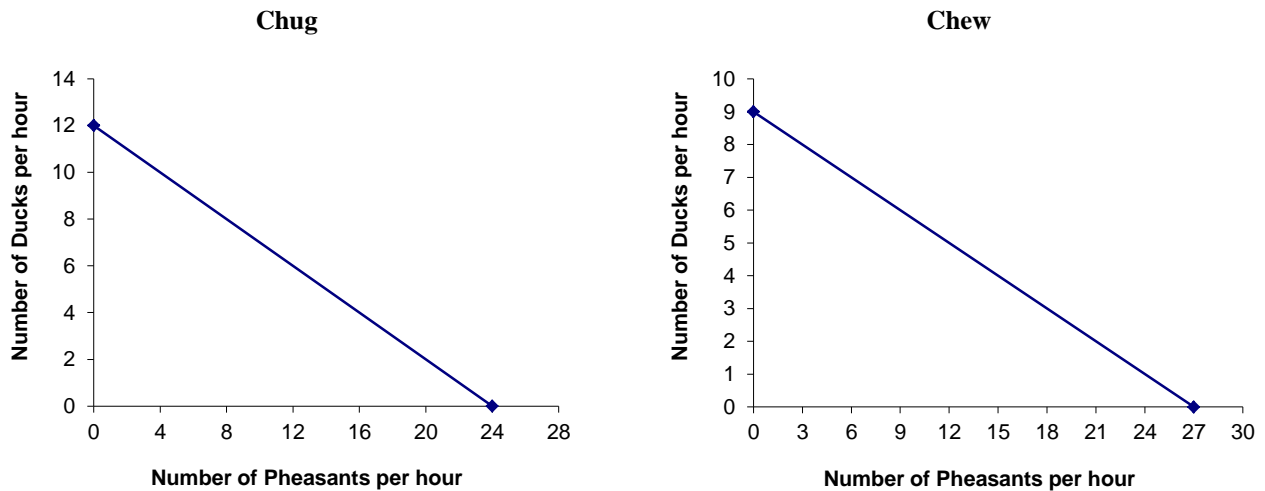
b. Explain in your own words what these PPFs represent. What does it mean to move from one point on the PPF to another point on the PPF?

The PPFs show the possible combinations of ducks and pheasants that the dogs could produce, ceteris paribus. Moving from one point on the PPF to another represents a different choice of the mixture of the two goods produced (for example, one could hunt only ducks and no pheasants, or could move to another point on the PPF and produce all pheasants and no ducks).

c. What is the opportunity cost of retrieving a duck for Chug?

1 hour = 12 Ducks   *12 Ducks = 24 Pheasants*

1 hour = 24 pheasants   *1 duck = 2 pheasants*

(OVER)

d. What is the opportunity cost of retrieving a duck for Chew?

1 hour = 9 Ducks   *9 ducks = 27 Pheasants*

1 hour = 27 pheasants   *1 duck = 3 pheasants*

e. Which dog has comparative advantage in retrieving ducks? Why?

Chug has a lower opportunity cost of retrieving ducks because his cost per duck is 2 pheasants and Chew's cost per duck is 3 pheasants. Because Chug has lower opportunity cost of retrieving ducks, Chug has comparative advantage in retrieving ducks.

f. What is the most efficient way for you to split the retrieving duties between your hunting dogs? Why?

Since Chug has a lower opportunity cost of retrieving ducks, Chug should retrieve ducks and Chew should retrieve pheasants.

g. Is the constant opportunity cost assumption reasonable in this example?

No. It is likely that the dogs have increasing opportunity cost of retrieving each of the birds. Pheasants are usually hunted on land and through thick grass, which would tire dogs out the more of them they hunt (i.e., the first downed pheasant may take only a minute or two to retrieve, but the 10th downed pheasant may take longer since the dog is tired of running by then and might do better at swimming instead). A similar situation holds for ducks, even though they are usually hunted over/in water.

h. If not, what shape of the PPFs would more reasonably describe the real world? Explain why you chose this shape or defend the shape used with constant opportunity costs?

As described above, the time cost to obtain the 10th duck is likely higher than the cost to obtain the 1st duck, so the "real" PPFs would be bowed outward.