1. Jessica is earning money by providing a dog grooming service. She pays $50 to rent a room at the local animal hospital. Her profit from a single grooming session is $10 per dog. The following function: $P = -50 + 10x$ can be used to determine Jessica's profit P as a function of number of dogs x?

a. How much would Jessica's profit be if she groomed 100 dogs?

b. How many dogs did Jessica groom if her profit was $48? Set up an equation and solve.

c. Solve $-50 + 10x = 72$. What does the value of *x* represent in the context of the problem?

d. Solve $-50 + 10x > 150$. What does the value of *x* represent in the context of the problem?

2. Jason is saving up to buy a digital camera. So far, he has saved $175. He earns $30 per week mowing yards. The following function:
B = 175 + 30x , where B is the amount of money used to buy the camera and x is the number of weeks, can be used to determine the amount of money Jason save.

a. How much money will Jason have saved after 5 weeks

b. How many weeks will Jason have to continue mowing lawns if the camera he wants cost $700. Set up an equation and solve.

c. Solve $175 + 30x > 900$ What does the value of *x* represent in the context of the problem?

d. Solve $175 + 30x < 500$. What does the value of *x* represent in the context of the problem?