Quadratic and Linear Practice

Name: _____

Write the rule for each of the following situations and use the rule to answer each question:
SHOW ALL OF YOUR WORK.

a) An amusement park charges $25, regardless of the number of rides a person goes on. What is the rule of the function which associates the number of rides, *x*, with the total cost, *y*?

    - What will it cost for 50 rides?

b) A babysitter charges $6.50/hour. What is the rule of the function which associates the number of hours, *x*, with the total charge, *y*?

    - How much did he make for 3 ½ hours of work?

    - If he made $72.50, how many hours did he work?

c) The cost of a 6 inch by 6 inch tile is $1.44. If the cost varies according to surface area, what is the rule of the function which associates the side length, *x*, with the cost of the tile, *y*?

- What will it cost for an 8 inch by 8 inch tile?
- If the cost of 8 tiles was $46.08, what were the dimensions of each tile?

d) An internet service provider charges $4.50/MB as well as a fixed monthly rate of $15. What is the rule of the function which associates the number of megabytes (MB) downloaded in a month, *x*, with the total monthly cost, *y*?

- What would it cost to download 42 MB?
- If a person paid $163.50 in one month, how many megabytes did they download?

e) An object falls from a rooftop. After one second it has fallen 9.8 metres.

- How far will it have fallen after 2 seconds?
- If the rooftop is 61.25 metres high, how long will it take the object to hit the ground?
- Parameter “a” of the function corresponds to the gravitational pull on the object. If the gravitational pull on the Moon is about one-sixth that of the Earth’s, how would the graph of this function change?
- If the same object fell off of a rooftop 61.25 metres high on the moon, how long would it take the object to hit the ground?