Evaluating Functions

Steve's income is modeled by the equation $d = 15t + 20$ where d is his income and t is the number of hours he has worked.

1) How much does Steve earn after 4 hours of work.

2) What is f(3)? What does f(3) mean?

3) What is f(0)? What does it mean?

4) How long does it take Steve to make $140?

5) Graph this function.

6) Describe the pattern of change in Steve's income.

The height of a ball thrown into the air is described by the equation $h = -16t^2 + 64t$ where h is height and t is time in seconds.

7) How high is the ball after 3 seconds?

8) What is f(1)? What does f(1) mean?

9) What is f(0)? What does f(0) mean?

10) What is f(4)? What does f(4) mean?

11) How long does it take the ball to reach a height of 64 feet?

12) Graph this function.

13) Describe the pattern of change in the height of the ball.

The number of bacteria present in a culture is given by the function $n = 50(1.4)^t$ where n is the number of bacteria and t is time in hours.

14) How many bacteria are present after 6 hours?

15) What is f(4)? What does f(4) mean?

16) What is f(0)? What does f(0) mean?

17) How long does it take for the population to grow to 2,835 bacteria?

18) Graph this function.

19) Describe the pattern of change in the growth of the bacteria.

A business makes 100 t-shirts to sell at an event. The profit earned is given by the function
$p = 8s - 300$ where p is the profit and s is the number of shirts sold.

20) How much money will be earned after 50 shirts are sold?

21) What is f(25)? What does that mean? What does a negative answer indicate?

22) What is f(80)? What does a positive answer indicate?

23) How many t-shirts must be sold to make a profit of $436?

24) How much money will the business make if they can sell all 100 t-shirts?

Paul drops a marble off of a 256 ft building. The height of the marble is modeled by the function
$h = -16t^2 + 256$ where h is height and t is time in seconds.

25) How high is the marble after 1 second?

26) What is f(0)? What does f(0) mean?

27) How long does it take the marble to fall to a height of 112 feet?

28) How long does it take the marble to hit the ground?

29) What is f(6)? What could that answer possibly mean?

Rabbis are introduced into an ecosystem without predators, and they populate according to the model $r = 6(2)^g$ where r is the number of rabbits and g is the number of generations.

30) How many rabbits are there after 4 generations?

31) What is f(0)? What does f(0) mean?

32) How many generations does it take for the populations to reach 1,536 rabbits?

33) What is f(15)?