**Day 11: Comparing Multiple Representations of Functions Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**Practice Assignment Block: \_\_\_\_\_\_\_**

1. Your employer has offered two pay scales for you to choose from. The first option is to receive a base salary of $250 a week plus 15% of the price of any merchandise you sell. The second option is represented in the graph below. Compare the properties of the functions.



**First Option**

y-intercept:

slope:

**Second Option**

y-intercept:

slope:

a. Which function has a higher starting salary and why? b. Which function has a greater commission rate

 and why?

2. Compare the properties of the functions below in terms of the problem situation:

**Rental Store B**

The table below shows the total cost in dollars to rent a steam cleaner at a different rental store, g(x) represents the total cost after x hours.



**Rental Store A**

A rental store charges $40 to rent a steam cleaner, plus an additional $4 per hour.

a. Which function has a higher staring price and why?

b. Which function has a higher rental cost per hour

and why?

3. Compare the properties of the functions below in terms of the problem situation:

**Job Offer B**

She received a second job offer represented by the following equation:

f(x) = 30,000(1+ 0.02)x.

**Job Offer A**

Jazlynn received a job offer with a starting salary of $32,000 and a 1.5% increase every year.

a. Which function has a higher staring salary and why? b. Which function has a greater pay increase rate

 and why?

4. Compare the properties of the functions below in terms of the problem situation:

**Harrison High School**

The following table shows the enrollment of Harrison High School, g(x), after x years.



**Allatoona High School**

The enrollment of Allatoona High School, f(x), after x years is modeled by the function f(x) = 1700(1 + 0.025)x.

a. Which school has a higher staring population and why?

b. Which function has a greater enrollment rate and why?

5. Three turtles are running a race. The following are their information from the starting line in ***t*** number of minutes.

**Elmer**: 

**Fred**: 

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| x | 1 | 2 | 3 | 4 | 5 |
| G(t) | **-18** | **-20** | **-18** | **-12** | **-2** |

 **George**:

a. Which turtle is winning the race at *t = 2*?

b. Which turtle is winning the race at *t = 6*?

c. Who would you predict to win the race if the race was 40 feet long and why?

6. Three students are shooting wads of paper with a rubber band, aiming for a trash can in the front of the room. The height of each student’s paper wad, in feet, is given as a function of the time in seconds. Which student’s paper wad flies the highest?

* The path of Micaiah’s paper was is modeled by the equation f(x) = -x2 + 2x + 7
* After 3 seconds, Trey’s paper wad achieves a maximum height of 6.5 feet above the floor.
* Quincy’s paper wad is estimated to reach the heights shown in the table below.

