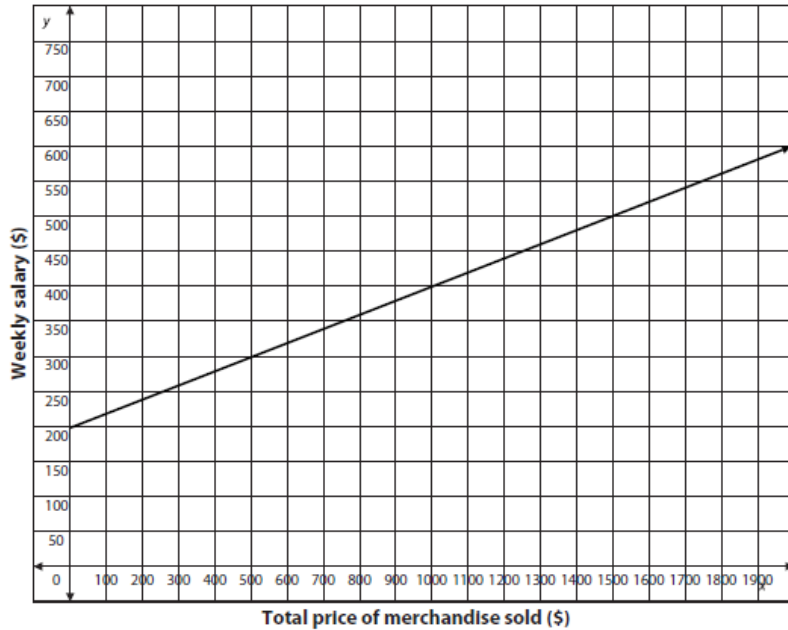1. Your employer has offered two pay scales for you to choose from. The first option is to receive a base salary of $250 a week plus 15% of the price of any merchandise you sell. The second option is represented in the graph below. Compare the properties of the functions.

Total price of merchandise sold ($)

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

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.

Hours (x)	Total cost (g(x))
3	46
4	53
5	60
6	67

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

Job Offer B
She received a second job offer represented by the following equation: $f(x) = 30,000(1 + 0.02)^x$.

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:

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

Harrison High School

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

x	$g(x)$
0	1900
1	1872
2	1843
3	1816
4	1789

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

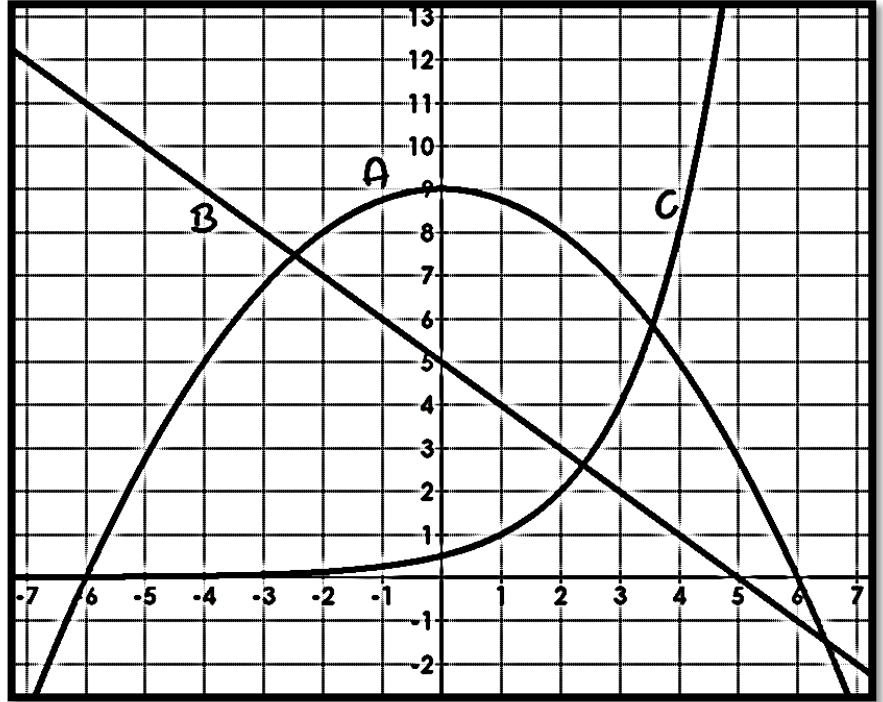b. Which function has a greater enrollment rate and why?

5. Use the graph below to answer the following questions:

a. List the functions in order from least to greatest for y-intercepts:

b. Which function has the largest x-intercept?

c. List the functions in order from smallest to largest when x = -4.

d. List the functions in order from smallest to largest when x = 0.

e. List the functions in order from smallest to largest when x = 2.

f. List the functions in order from smallest to largest when x = 5.

g. Which graphs has the largest rate of change when x is between 4 and 5?