Title of Lesson: 2.5.2 Comparing Functions in Different Forms

By the end of this lesson, I will be able to answer the following questions…

1. How do I compare Linear, Quadratic and Exponential Functions?

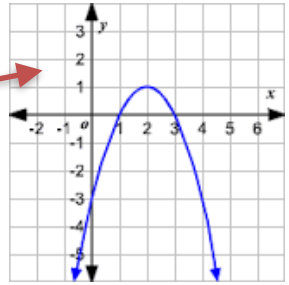
2. How do I compare data that is given via Table, Function or Graph.

Vocabulary

DIFFERENT WAYS DATA CAN BE GIVEN

1. FUNCTIONS → $f(x)=3x^2+x-1$

2. GRAPHS



3. TABLES

x	f(x)
0	0
1	1
4	2
9	3
16	4

4. STATEMENTS → "THE HIGHEST THE BIRD FLEW WAS 30 FEET."

Prerequisite Skills with Practice

2.5.2 OPENING ACTIVITY

Which function has a greater

y -intercept,

$f(x) = 8x - 2$

OR

$g(x) = 2(x - 3)(x + 1)$?

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 Alejandro's paper wad is modeled by the equation $f(x) = -x^2 + 2x + 7$.

- Melissa's paper wad is estimated to reach the heights shown in the table below.

x	0	2	3	4
y	3	6	7	6

- After 3 seconds, Connor's paper wad achieves a maximum height of 6.5 feet above the floor.

You want to invest some money you received for winning SECOND in a beauty contest (Plotts won FIRST, of course) The options you have are the following.

1. You earn 2 dollars every year on your initial deposit.
2. You earn 10% interest per year, compounded annually.

If you wanted save the money for 10 years without a withdraw, what would be the better option? How would you know?

If you wanted save the money for 15 years without a withdraw, what would be the better option? How would you know?

THE END

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