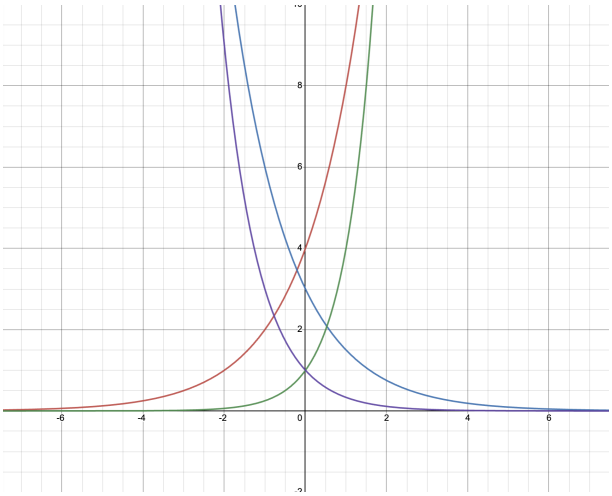
ACMAT118 Spring 2024
Professor Manguba-Glover
Section 5.3 Classwork (CW 1) Name: _____

Complete as many of the following problems as you can with your table. You do not have to go in order. If **your entire table** finishes early, and your answers have been checked, you may leave early.

1. Figure out (and label) which graph below is the graph of

   (a) $y = 4^x$
   (b) $y = \left(\frac{1}{3}\right)^x$
   (c) $y = 4(2)^x$
   (d) $y = 3\left(\frac{1}{2}\right)^x$



2. Find the equation of the exponential function that goes through the points $\left(-1, \frac{1}{4}\right)$ and $(1, 4)$.

3. Initially a sample has 8 lbs of radioactive substance with a half-life of 5 days. How many lbs will remain after 3 days?

4. Robert invested \$700 into a certificate of deposit earning 6% interest compounded quarterly. How much is the certificate of deposit worth 5 years later?

5. A new car model is released at a price of \$30,000. The manufacture estimates that the price of the car will increase by 5% each year. Estimate how much the car will cost in 4 years.

Key:

1. (a) Green
   (b) Purple
   (c) Red
   (d) Blue
2. $y = 4^x$
3. Approximately 5.278 lbs
4. Approximately \$942.80
5. Approximately $\$36,465.19$