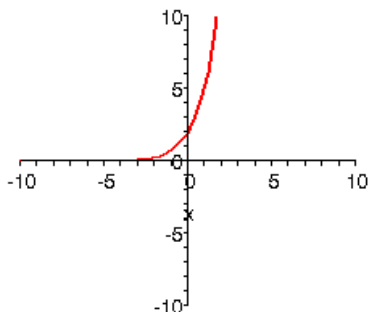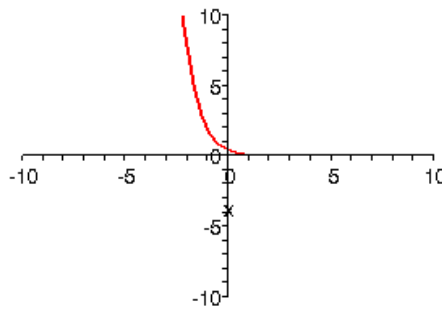Mat 115 Worksheet- Exponential Function (Lesson#32)

1.   Find an exponential function of the form $f(x) = ab^x$ that has the given graph.

   (a)   (b)

2.   Find an exponential function of the form $f(x) = ab^x$ that has the given *y*-intercept and passes through the point P.

   (a) $(0, 5)$; $P = (2, \frac{5}{9})$ (b) $(0,2)$; $P = (-1, \frac{2}{5})$

3.   Find an exponential function of the form $f(x) = ab^x$ that passes through the points P. and Q.

   (a) P= (-1, 4) and Q= (2, 32)   (b) P= (-2, 32)   and Q= $(1, \frac{1}{2})$

4.   Find the values of *a* and *b* for $f(x) = ab^x$ if $f(-2) = 175$ and $f(2) = 7/25$.

5.   The minimum wage is established by the Federal Government. In 1938, the minimum wage was $0.25 per hour and it has risen to $7.15 per hour in 2007. Find an exponential function of the form $f(t) = ab^t$ that models the minimum wage. Estimate the possible minimum wage for the year 2016.

6.   At the start of a biology experiment, there were 800 bacteria. After four hours, it was found that the population has grown to 1200.

   (a) Find an exponential function $f(t) = ab^t$ that models this problem.
   (b) How many bacteria were present after three hours from the start of the experiment?