1. Jose invested $12,500 dollars into an account that grows at 7.82% annual interest. Find the value of the investment in 7 years.

2. Patty is investing Japanese Yen (¥) according to the model $A(t) = 5{,}000\left(1 + \frac{.065}{12}\right)^{12t}$
   a. Write down
      i. the initial value of the investment;
      ii. the annual interest rate;
      iii. the frequency with which the interest is compounded.

   b. Determine the time, to the nearest tenth of a year, it takes the investment to reach $7500. Sketch a graph to show the solution.

3. Robert poured a cup of coffee and measured the temperature in °C every 10 minutes for 50 minutes. The data is shown in the following table.

Time (min)	0	10	20	30	40	50
Temp. (°C)	90	74	61	45	39	32

Robert analyzes the data and determines it is decreasing exponentially.
   a. Find an exponential regression equation to model the data.
   b. Use the equation to predict the temperature of the coffee after 25 minutes.
   c. Use the r – value to comment on how well the equation models the data. DiagnosticsOn.