Algebra 1
Unit 3 – Project
Linear Functions

Instructions: Answer **ALL** questions. You **MUST** attach all graph/sketches and show all calculations and/or explanations to justify your answers. If you are asked to provide a graph, you **MUST** use graph paper or a graphing utility/software. Upload the completed project as a Word or PDF file.

1.   Identify the domain and range of the function. $\{(2,1),(4,2),(6,3),(8,4),(10,5)\}$

2.   Use the simple interest formula $A(t) = P(1 + rt)$.   Evaluate the function for $t = 7$ to determine how much money Olivia will have if she invests $850, which earns 4% annual simple interest for 7 years.

3.   Given $f(x) = 4x - 5$, describe how the graph of g compares with the graph of f.

   a. $g(x) = 4(x - 3) - 5$

   b. $g(x) = 2(4x - 5)$

4.   Graph $f(x) = -2.5|x|$ What is the domain and range of the function?

5.   For $g(x) = 7|x|$ find the vertex and tell whether it represents a maximum or minimum value

   of the function.

6.   Graph each function and state the vertex.

   a. $g(x) = |x| + 4$

   b. $g(x) = |x + 1| - 2$