Algebra 1
Unit 2 – Project
Linear Equations

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. Graph the following equations

    a. $y = 3x - 1$

    b. $y = -1.5x + 3.5$

2. Write the equation of the line in slope-intercept form that passes through the given points.

    a. $(2,0)$ and $(4,6)$

    b. $(-1,8)$ and $(5,-2)$

3. Write the equation in point-slope form of the line that passes through the given point with the given slope. $(-2,\ 5);\ m = -3$

4. Write an equation in point-slope form of the line that passes through the given points.

    $(1.5, 4)$ and $(-2.5, 6)$

5. Write $y - 3 = 5(4 - x)$ in standard form.

6. Determine the x- and y-intercepts of the line **and graph the line**. $5x - 3y = 30$

7. Write an equation for the line that passes through the given point and is parallel to the given line.

    $(2,1);\ y = -3x + 8$

8. Write an equation for the line that passes through the given point and is perpendicular to the given line.

    $(-2,6);\ y = 0.5x - 3$