Name:

Date:

School:

Facilitator:

1.08 Equations of Lines (48 Points)

**Show your work below your answers.**

1. Write the equation of a line with a slope of 5 and a *y*-intercept of (0, 3). Write the equation in slope-intercept form.
2. Write the equation of a line with a slope of $\frac{2}{3}$ and a *y*-intercept of (0, −2). Write the equation in slope-intercept form.

1. Write the equation of a line with a slope of −4 passing through the point (−3, −1). Write the equation in slope-intercept form.

1. Write the equation of the line that passes through the points (2, −6) and (−2, −4). Write the equation in slope-intercept form.

1. Write the equation of a line parallel to the line 2*x* − 5*y* = 10 with a y-intercept of (0, −1). Write your answer in standard form.

 *Follow the steps below.*

Step 1. Write the equation of the given line in slope-intercept form and determine its slope.

**equation:**

**slope:**

Step 2. Use the slope of the given line to determine the slope needed to write the equation of a parallel line and write a short paragraph explaining how you determined the slope of the parallel line.

**slope needed for parallel line:**

**Reason:**

Step 3. Write the equation of the parallel line in slope-intercept form and then write the equation in standard form.

**slope-intercept form:**

**standard form:**

1. Write the equation of a line perpendicular to the line 3*x* +7*y* =21 with a *y*-intercept of (0, 2). Write your answer in standard form.

 *Follow the steps below.*

Step 1. Write the equation of the given line in slope-intercept form and determine its slope.

**equation:**

**slope:**

Step 2. Use the slope of the given line to determine the slope needed to write the equation of a perpendicular line and write a short paragraph explaining how you determined the slope of the perpendicular line.

**slope needed for perpendicular line:**

**Reason:**

Step 3. Write the equation of the perpendicular line in slope-intercept form and then write the equation in standard form.

**slope-intercept form:**

**standard form:**