ACMAT117 Fall 2024
Professor Manguba-Glover
Section 2.1 Classwork (CW 4) Name: _____

Complete as many of the following problems as you can with your group. You do not have to go in order. Each group will be given a specific problem that they must complete and present to either Professor MG or to Stefanie before they leave.

If **your entire table** finishes early, and you have presented your given problem, you may leave early.

(1) Find the slope and y-intercept of the graph and use it to graph the following functions:

(a) $f(x) = -3x$

(b) $h(x) = -\frac{3}{4}x + 2$

(c) $y = \frac{2}{3}x - 4$

(2) Find the x and y intercepts and then use them to graph the following:

(a) $5x = 10y - 20$

(b) $-6x + 4y = 0$

(c) $3x - 4y = -12$

(d) $f(x) = -\frac{2}{3}x + 2$

(3) Rewrite the given equation in slope-intercept form, and then graph the function.

(a) $6x - 3y - 12 = 0$

(b) $9x - 3y - 9 = 0$

(4) Write the slope intercept form of the equation that satisfies the given conditions:

(a) Slope is 3, passing through $(3, 5)$

(b) Slope is -2 passing through $(-3, -6)$

(c) Passing through $(-6, 0)$ and $(0, 6)$

(d) Passing through $(-3, 1)$ and $(6, -2)$

(5) Write the point-slope form of the equation satisfying the given conditions. Then use the point-slope form of the equation to write the slope intercept form of the equation.

(a) Parallel to $y = 4x$ and passing through $(4, 1)$

(b) Perpendicular to $y = 4x$ and passing through $(1, 4)$

(c) Passing through $(-8, 8)$ and perpendicular to the line that has an x-intercept of $(3, 0)$ and a y-intercept of $(0, -6)$.

Key:

(1) (a) $m = -3$, $b = 0$

(b) $m = -\frac{3}{4}$, $b = 2$

(c) $m = \frac{2}{3}$, $b = -4$

(2) Check graphs with a graphing utility

(a) y-int: $(0, 2)$, x-int: $(-4, 0)$

(b) y-int: $(0, 0)$, x-int: $(0, 0)$

(c) y-int: $(0, 3)$, x-int: $(-4, 0)$

(d) y-int: $(0, 2)$, x-int: $(3, 0)$

(3) Check graphs with a graphing utility

(a) $y = 2x - 4$

(b) $y = 3x - 3$

(4) (a) $y = 3x - 4$

(b) $y = -2x - 12$

(c) $y = x + 6$

(d) $y = -\frac{1}{3}x$

(5) (a) $y - 1 = 4(x - 4)$, $y = 4x - 15$

(b) $y - 4 = -\frac{1}{4}(x - 1)$, $y = -\frac{1}{4}x + \frac{17}{4}$

(c) $y - 8 = -\frac{1}{2}(x + 8)$, $y = -\frac{1}{2}x + 4$