Lesson Title: Date:

(A) Lesson Objectives:

a. Write Linear Equations written in the form of $y - y_1 = m(x - x_1)$ (slope-point form)
b. Review Linear Equations written in the form of $Ax + By = C$ and $y = mx + b$
c. Work with Parallel and Perpendicular Lines

(B) Opening Exercises:

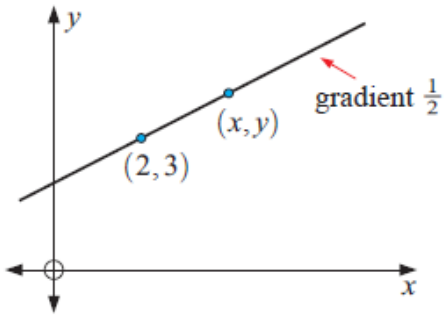
i. SAMPLE QUIZ

(C) Exploration #1:

a. Determine the equation of the line in the diagram. Write the equation in:

i. Slope-intercept form

ii. Standard/general form



iii. Slope-point form

b. Use the point (6,5) to test ALL 3 EQUATIONS

(D) Exploration #2:

a. Determine the equation of the line that is perpendicular to the line $y = -\frac{4}{3}x + 1$ and passes through A(5,-2). Write the equation in slope-point form.

b. Graph the line

(E) Homework:

1) Write an equation *in point-slope form* for the line:

a) through $(3, -2)$ with gradient 3

b) through $(2, -3)$ with gradient $-\frac{3}{4}$

c) through $(0, 4)$ with gradient -3.

2) Write an equation *in point-slope form* for the line:

a) which has gradient $\frac{1}{2}$ and cuts the y-axis at 3

b) which is parallel to a line with slope 2, and passes through the point $(-1, 4)$

c) which cuts the x-axis at 5 and the y-axis at -2

d) which cuts the x axis at -1, and passes through $(-3, 4)$

e) which is perpendicular to a line with gradient $\frac{3}{4}$, and cuts the x-axis at 5

f) which is perpendicular to a line with gradient -2, and passes through $(-2, 3)$.