

Name: _____

Date: _____

MPM2D: Converting Equations of Lines

Complete all questions on a separate sheet(s) of paper, and attach it to this sheet. Show all steps.

1. Convert from point-slope form, $y = m(x - p) + q$, to slope-y-intercept form, $y = mx + b$.

(a) $y = 2(x + 3) + 6$

(b) $y = 3(x - 4) + 8$

(c) $y = -3(x - 7) - 15$

(d) $y = \frac{1}{2}(x - 6) + 9$

(e) $y = \frac{2}{3}(x + 6) - 5$

(f) $y = -4(x - \frac{3}{2}) - \frac{1}{2}$

2. Convert from the slope-y-intercept form to standard form, $Ax + By + C = 0$.

(a) $y = -2x - 5$

(b) $y = 4x - 1$

(c) $y = x + \frac{2}{5}$

(d) $y = \frac{1}{2}x - 4$

(e) $y = 3x - \frac{1}{2}$

(f) $y = -\frac{3}{5}x + \frac{2}{3}$

3. Convert each equation into slope-y-intercept form.

(a) $3x + y - 3 = 0$

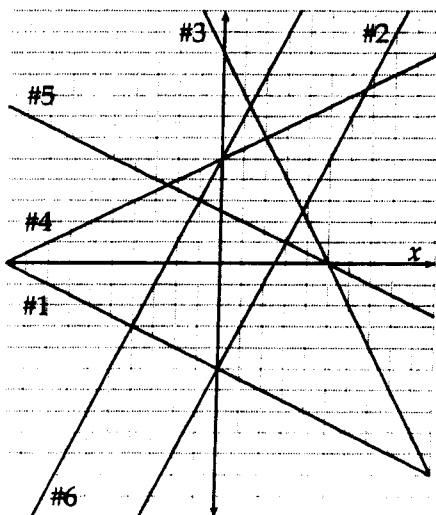
(b) $-8x + 2y + 10 = 0$

(c) $-2x - 4y - 1 = 0$

(d) $-2x + y = -1$

(e) $3x + y = 3$

(f) $\frac{1}{2}x - \frac{1}{4}y = 2$

4. Determine the x - and the y -intercepts for each of the equations in Part 3 above. Remember to express each as a coordinate (x, y) .

5. Match each equation to a line to the left.

(a) $y = 2x - 5$

(b) $y = -\frac{1}{2}(x - 5)$

(c) $2(y - 5) = x$

(d) $-x - 2y = 10$

(e) $-2x + y - 5 = 0$

(f) $x = 5 - \frac{y}{2}$

6. Convert the general equation of a line in standard form, $Ax + By + C = 0$, into slope-y-intercept form, $y = mx + b$. Explain how you might determine the slope of the line (m) and the y -intercept (b) from the coefficients A , B and C in standard form.

Name: _____

Answers

Date: _____

MPM2D: Converting Equations of Lines

Complete all questions on a separate sheet(s) of paper, and attach it to this sheet. Show all steps.

1. Convert from point-slope form, $y = m(x - p) + q$, to slope-y-intercept form, $y = mx + b$.

(a) $y = 2(x + 3) + 6$ (b) $y = 3(x - 4) + 8$ (c) $y = -3(x - 7) - 15$ $y = -3x + 6$
 $y = 2x + 12$ $y = 3x - 4$
 (d) $y = \frac{1}{2}(x - 6) + 9$ (e) $y = \frac{2}{3}(x + 6) - 5$ (f) $y = -4(x - \frac{3}{2}) - \frac{1}{2}$ $y = -4x + \frac{11}{2}$
 $y = \frac{1}{2}x + 6$ $y = \frac{2}{3}x - 1$

2. Convert from the slope-y-intercept form to standard form, $Ax + By + C = 0$.

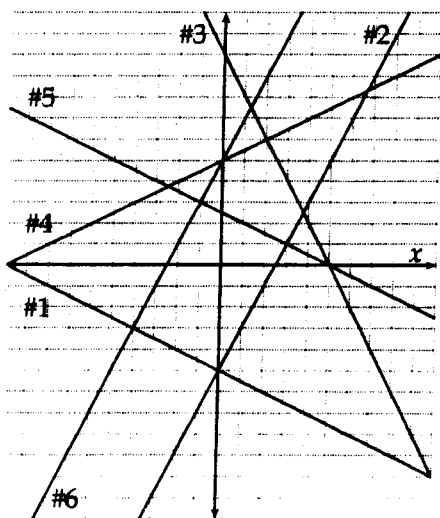
(a) $y = -2x - 5$ (b) $y = 4x - 1$ (c) $y = x + \frac{2}{5}$ $5x - 5y + 2 = 0$
 $2x + y + 5 = 0$ $4x - y - 1 = 0$
 (d) $y = \frac{1}{2}x - 4$ (e) $y = 3x - \frac{1}{2}$ (f) $y = -\frac{3}{5}x + \frac{2}{3}$ $9x + 15y - 10 = 0$
 $x - 2y - 8 = 0$ $6x - 2y - 1 = 0$

3. Convert each equation into slope-y-intercept form.

(a) $3x + y - 3 = 0$ (b) $-8x + 2y + 10 = 0$ (c) $-2x - 4y - 1 = 0$ $y = -\frac{1}{2}x - \frac{1}{4}$
 $y = -3x + 3$ $y = 4x - 5$
 (d) $-2x + y = -1$ (e) $3x + y = 3$ (f) $\frac{1}{2}x - \frac{1}{4}y = 2$ $y = 2x - 8$
 $y = 2x - 1$ $y = -3x + 3$

4. Determine the x- and the y-intercepts for each of the equations in Part 3 above. Remember to express each as a coordinate (x, y).

a) $x = 1$ b) $x = \frac{5}{4}$ c) $x = \frac{1}{2}$ d) $y = 1$ e) $y = 3$ f) $y = -8$
 $y = 3$ $y = -5$ $y = -\frac{1}{4}$ $x = \frac{1}{2}$ $x = 1$ $x = 4$



5. Match each equation to a line to the left.

(a) $y = 2x - 5$ #2
 (b) $y = -\frac{1}{2}(x - 5)$ #5
 (c) $2(y - 5) = x$ #4
 (d) $-x - 2y = 10$ #1
 (e) $-2x + y - 5 = 0$ #6
 (f) $x = 5 - \frac{y}{2}$ #3

6. Convert the general equation of a line in standard form, $Ax + By + C = 0$, into slope-y-intercept form, $y = mx + b$. Explain how you might determine the slope of the line (m) and the y-intercept (b) from the coefficients A, B and C in standard form.

$By = -Ax - C$ $m = -\frac{A}{B}$ $b = -\frac{C}{B}$
 $y = -\frac{A}{B}x - \frac{C}{B}$