

Algebra II, 5.2-5.4

1. For each of the expressions below state whether it is linear in  $x$ .

a)  $5x - 7 + 2x$

b)  $(3x - 2)x$

2. Write the equations below in the form  $mx + b$  and identify the values of  $m$  and  $b$

a)  $y - 8 = 3(x - 5)$

b)  $4x - 7y = 12$

3. Write an equation in slope-intercept form for the line that passes through  $(4, 6)$  with slope of  $-2$ .

4. Write an equation in slope-intercept form for the line that passes through  $(6, 8)$  and  $(8, 12)$

5. Write an equation in slope-intercept form for the line that is perpendicular to the line  $y = 5x - 7$  and has the same  $y$ -intercept.