5.6 Parallel & Perpendicular Lines

Parallel lines have the same slope but different y-intercepts.

Perpendicular lines have opposite and reciprocal slopes. and the lines form right angles.

m and $\frac{-1}{m}$

Example: Write an equation of the line in slope-intercept form that is parallel to $y = 3x - 7$ and has a y-intercept of 4.

$y = 3x - 7$ the slope of this line is 3.
Because they are parallel, the other line will have a slope of 3.
So $m = 3$
$b = 4$
$\therefore y = 3x + 4$

Example: Write an equation of the line in slope-intercept form ~~of~~ that is perpendicular to $y = 3x + 2$ and has a y-intercept of 4

$y = 3x + 2$ the slope is 3
the perpendicular slope is $-\frac{1}{3}$
$\therefore m = -1/3$
$b = 4$
$y = -1/3x + 4$

C.W. Pg 256 (5-16 ~~all~~s)
Pg 261 (1-15 odds)

HW Pg 256 (29-41 all)
Pg 261 (17-45 odds)