

The slope of  $y = 3x - 5$  is 3. The slope of a perpendicular line is  $-\frac{1}{3}$ , the negative reciprocal of 3. Its equation has the form  $y = -\frac{1}{3}x + b$ . To find  $b$ , substitute (6, 4) for  $x$  and  $y$ :

$$4 = -\frac{1}{3}(6) + b, \text{ or } 4 = -2 + b, \text{ so } 6 = b$$

This gives the equation of the line:  $y = -\frac{1}{3}x + 6$