

10. Determine the equation of the line that has the same  $x$ -intercept as the line described by  $x - 5y + 10 = 0$ , and the same  $y$ -intercept as the line  $3x + 2y - 6 = 0$ .

9d 5.4 p.292 #10

(S1) let  $y = 0$   
 $x - 5(0) + 10 = 0$

$$x + 10 = 0$$
$$x = -10$$

$\therefore (-10, 0)$  is the x-intercept.

(S2) let  $x = 0$

$$3(0) + 2y - 6 = 0$$

$$2y - 6 = 0$$

$$2y = 6$$

$$y = \frac{6}{2}$$

$$y = 3$$

$\therefore (0, 3)$  is the y-intercept.

(S3)  $m = \frac{3 - 0}{0 - (-10)} = \frac{3}{10}$

$\therefore m = \frac{3}{10}$

(S4)  $b = 3$  see step 2.

(S5)  $\therefore$  the equation is  $y = \frac{3x}{10} + 3$ .