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group: B20-04 variant: 2

Q6. ans:

$$2x - 5 = 4y \rightarrow 2x - 4y = 5$$

$$x + 3y = 12$$

$$\text{Point of intersection} = \left( \frac{63}{10}, \frac{19}{10} \right)$$

it has to be parallel to  ~~$2x - 3y + 2 - 5 = 0$~~   
 $x - 3y = 13$

$$ax + by + c_1 = 0$$

Since it passes through  $\left( \frac{63}{10}, \frac{19}{10} \right)$

$$ax + by + \lambda = 0$$

we can calculate  ~~$\lambda$~~   $b$ ;

$$\left( \frac{63}{10} \right) + 3 \left( \frac{19}{10} \right) = \lambda$$

$$\frac{6}{10} = \lambda$$

~~$\lambda$~~

So the eqn of the line is:  $x - 3y + \frac{6}{10} = 0$