

$$1) 4x + 3y + 10 = 0$$

$$2) 5x - 12y + 26 = 0$$

$$3) 7x + 24y - 50 = 0$$

$$1) l_1 = l_2 \quad \frac{52-25}{65}a + \frac{39+60}{65}b = 0 \rightarrow \frac{27}{65}a = -\frac{99}{65}b \rightarrow a = -\frac{11}{3}b$$

$$\text{or } \frac{52+25}{65}a + \frac{39-60}{65}b = 0 \rightarrow \frac{77}{65}a = \frac{21}{65}b \rightarrow a = \frac{3}{11}b$$

$$2) \quad l_1 = l_3 \quad \frac{20-7}{25}a + \frac{15-24}{25}b = -4 \rightarrow \frac{13}{25}a = -4 + \frac{11}{25}b \rightarrow a = -\frac{100}{13} + \frac{11}{13}b$$

$$\text{or } \frac{20+7}{25}a + \frac{15+24}{25}b = 0 \rightarrow a = \frac{39}{27}b \rightarrow a = \frac{13}{9}b$$

$$3) \quad l_2 = l_3 \quad \frac{125-91}{325}a + \frac{-300-312}{325}b = -4 \rightarrow a = \frac{-325*2}{17} + \frac{306}{17}b$$

$$\text{or } \frac{125+91}{325}a + \frac{-300+312}{325}b = 0 \rightarrow a = -\frac{3}{54}b$$

So (a,b) ∈ (0,0)