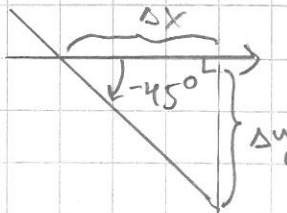
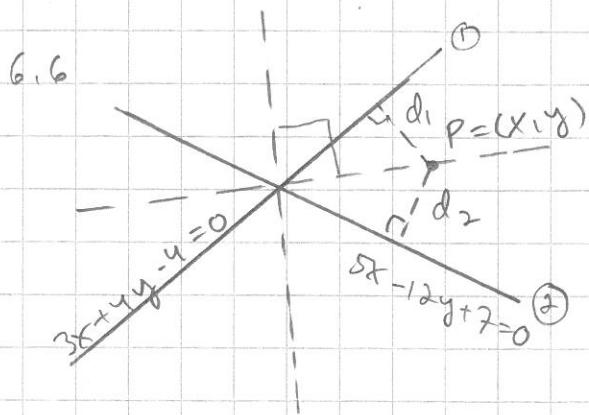


c)  $k = \frac{\Delta y}{\Delta x} = \tan(-45^\circ) = -1$
 $y - 2 = -1(x - 1) \Leftrightarrow \underline{y = -x + 3}$

d) $2x + y = 0 \Leftrightarrow y = -2x \Rightarrow k_1 = -2$
 $k_1 \cdot k_2 = -1 \Leftrightarrow k_2 = -\frac{1}{k_1} = -\frac{1}{-2} = \frac{1}{2}$
 $\Rightarrow y - 2 = \frac{1}{2}(x - 1) \Leftrightarrow \underline{y = \frac{1}{2}x + \frac{3}{2}}$



Käyrän yhtälön määrittelys:
 1° Ollaan $P = (x, y)$ mielivaltaisen käyrän piste
 2° yhtälö x :lle ja y :lle
 $d_1 = d_2$

$$\frac{|3x + 4y - 4|}{\sqrt{3^2 + 4^2}} = \frac{|5x - 12y + 7|}{\sqrt{5^2 + (-12)^2}} \quad | \cdot 13 \cdot 5$$

3° Siirto:

$$\Leftrightarrow 13|3x + 4y - 4| = 5|5x - 12y + 7|$$

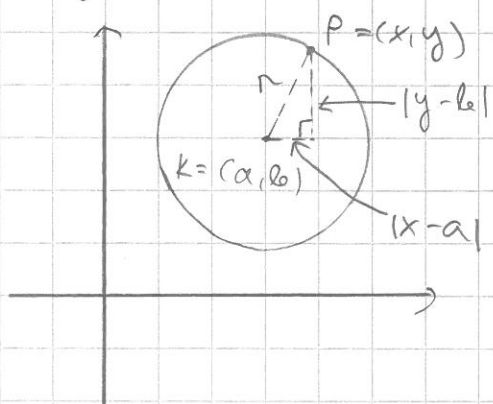
$$\Leftrightarrow |13(3x + 4y - 4)| = |5(5x - 12y + 7)|$$

$$\Leftrightarrow 13(3x + 4y - 4) = 5(5x - 12y + 7) \text{ tai } 13(3x + 4y - 4) = -5(5x - 12y + 7)$$

$$\Leftrightarrow 14x + 112y - 87 = 0 \text{ tai } 6x - 8y - 17 = 0$$

6.9 $4x^2 + 4y^2 + 40x + 36 = 0 \quad | :4$

Ympyrän yhtälön määrittelys:
 1° Ollaan $P = (x, y)$ mielivaltaisen ympyrän piste
 2° yhtälö x :lle ja y :lle



$|PK| = r$
 $\Leftrightarrow \sqrt{(x - a)^2 + (y - b)^2} = r \quad |(\)^2 \text{ mol. puol. } \geq 0$

3° Siirto:

$$\Leftrightarrow \boxed{(x - a)^2 + (y - b)^2 = r^2}$$

$$\Leftrightarrow x^2 + y^2 + 10x + 9 = 0$$

$$\Leftrightarrow x^2 + 10x + y^2 = -9 \quad | +5^2$$

$$\Leftrightarrow x^2 + 2 \cdot x \cdot 5 + 5^2 + y^2 = -9 + 5^2$$

$$\Leftrightarrow \underbrace{(x + 5)^2}_{x = -5} + \underbrace{y^2}_{y = 0} = 16 \Rightarrow \underline{ky = (-5, 0), r = \sqrt{16} = 4}$$

$$\boxed{\begin{aligned} (a + b)^2 &= a^2 + 2ab + b^2 \\ (a - b)^2 &= a^2 - 2ab + b^2 \end{aligned}}$$