

11/1/2018

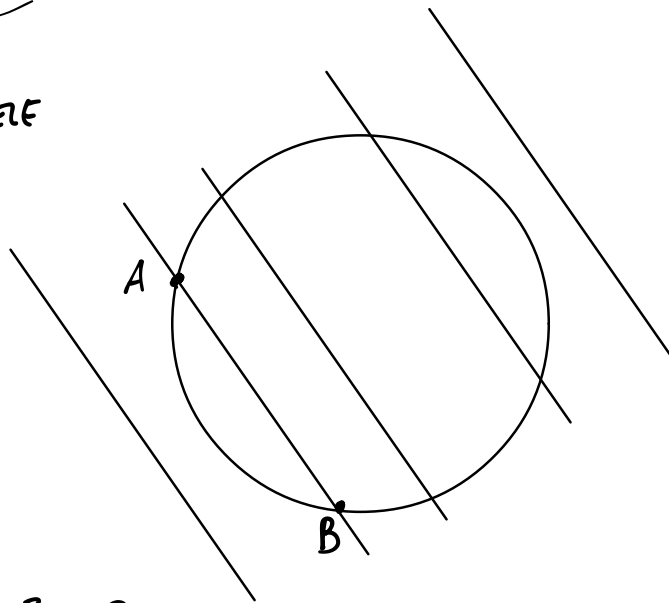
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$$y = -2x + K$$

FASCIO DI  
RETTE PARALLELE

$$x^2 + y^2 - x + y - 2 = 0$$

$$\overline{AB} = \sqrt{5}$$



$$\begin{cases} x^2 + y^2 - x + y - 2 = 0 \\ y = -2x + K \end{cases}$$

$$x^2 + (-2x + K)^2 - x - 2x + K - 2 = 0$$

$$x^2 + 4x^2 + K^2 - 4Kx - 3x + K - 2 = 0$$

$$\underbrace{5x^2}_a - \underbrace{(4K+3)x}_b + \underbrace{K^2 + K - 2}_c = 0$$

$$x = \frac{4K+3 \pm \sqrt{16K^2 + 9 + 24K - 20K^2 - 20K + 40}}{10} =$$

$$= \frac{4K+3 \pm \sqrt{4K - 4K^2 + 49}}{10}$$

$$\Delta = 4K - 4K^2 + 49$$

$$y = -\frac{4K+3 \pm \sqrt{\Delta}}{5} + K$$

$$A \left( \frac{4K+3+\sqrt{\Delta}}{10}, -\frac{4K+3+\sqrt{\Delta}}{5} + K \right) \quad B \left( \frac{4K+3-\sqrt{\Delta}}{10}, -\frac{4K+3-\sqrt{\Delta}}{5} + K \right)$$

$$A \left( \frac{4k+3+\sqrt{\Delta}}{10}, -\frac{4k+3+\sqrt{\Delta}}{5} + k \right) \quad B \left( \frac{4k+3-\sqrt{\Delta}}{10}, -\frac{4k+3-\sqrt{\Delta}}{5} + k \right)$$

$$\overline{AB}^2 = 5$$

$$(x_A - x_B)^2 + (y_A - y_B)^2 = 5$$

$$\left( \frac{2\sqrt{\Delta}}{10} \right)^2 + \left( -\frac{2\sqrt{\Delta}}{5} \right)^2 = 5$$

$$\frac{\Delta}{25} + \frac{4\Delta}{25} = 5$$

$$\frac{\cancel{5}\Delta}{25} = \cancel{5}$$

$$\Delta = 25$$

$$4k - 4k^2 + 49 = 25$$

$$4k^2 - 4k - 24 = 0$$

$$k^2 - k - 6 = 0$$

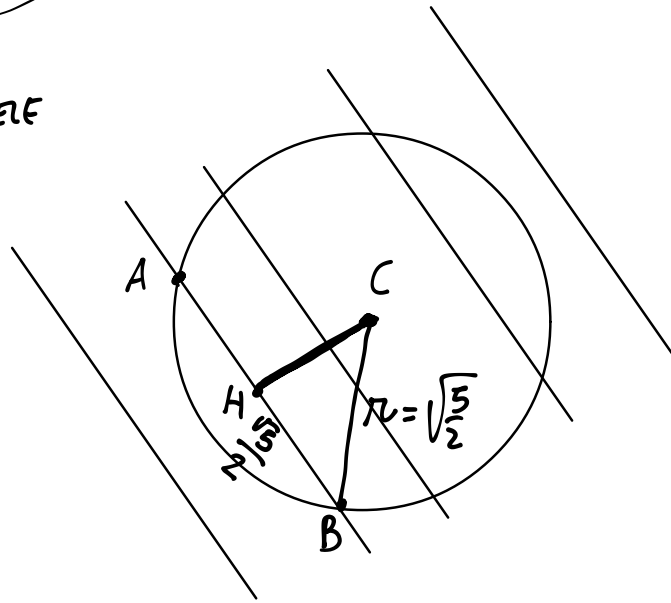
$$(k-3)(k+2) = 0 \quad \begin{matrix} \nearrow k=3 \\ \searrow k=-2 \end{matrix}$$

# METODO ALTERNATIVO (GHIDOTTI)

$$y = -2x + K$$

FASCIO DI  
RETTE PARALLELE

$$x^2 + y^2 - x + y - 2 = 0 \quad \overline{AB} = \sqrt{5}$$



$$\overline{HB} = \frac{\sqrt{5}}{2}$$

$$C\left(\frac{1}{2}, -\frac{1}{2}\right)$$

$$r = \sqrt{\frac{1}{4} + \frac{1}{4} + 2} = \sqrt{\frac{5}{2}}$$

$$\overline{HC} = \sqrt{\overline{CB}^2 - \overline{HB}^2} = \sqrt{\frac{5}{2} - \frac{5}{4}} = \sqrt{\frac{5}{4}} = \frac{\sqrt{5}}{2}$$

VADO ALLA RICERCA DELLE RETTE DEL FASCIO CHE HANNO DISTANZA  
DAL CENTRO PARI A  $\frac{\sqrt{5}}{2} = \overline{HC}$

$$y = -2x + K \Rightarrow 2x + y - K = 0$$

$$\frac{\left| 2 \cdot \frac{1}{2} + \left(-\frac{1}{2}\right) - K \right|}{\sqrt{2^2 + 1^2}} = \frac{\sqrt{5}}{2}$$

$$\frac{\left| \frac{1}{2} - K \right|}{\sqrt{5}} = \frac{\sqrt{5}}{2}$$

$$\left| \frac{1}{2} - K \right| = \frac{5}{2}$$

$$\frac{1}{2} - K = \frac{5}{2}$$

$$\boxed{K = -2}$$

$$\frac{1}{2} - K = -\frac{5}{2}$$

$$\boxed{K = 3}$$