

25)

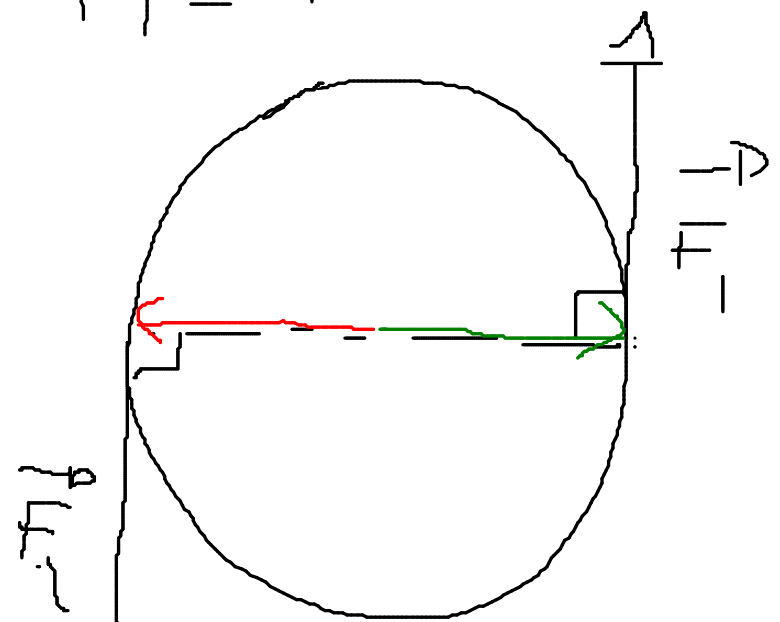
$$F_1 = 1,5 \text{ N}$$

$$r = 36 \text{ mm}$$

$$M = 1,5 \text{ N} \cdot 0,072 \text{ m} = 0,11 \text{ N} \cdot \text{m}$$

$$M = F \cdot d$$

$$M = ?$$



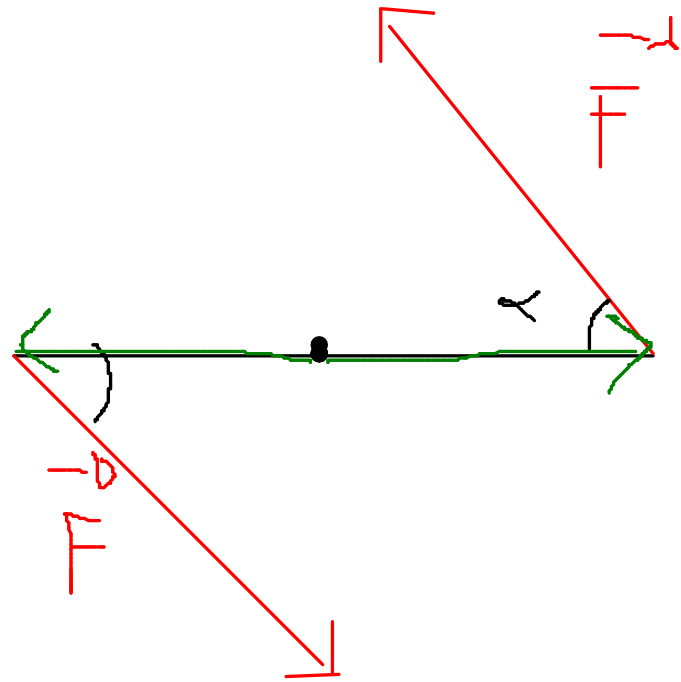
27)

$$F_1 = 50,0 \text{ N}$$

$$d = 80,0 \text{ cm}$$

$$\alpha = 60^\circ$$

$$M = 50,0 \text{ N} \cdot 0,8 \text{ m} \cdot \sin(60^\circ) = 34,6 \text{ N}\cdot\text{m}$$

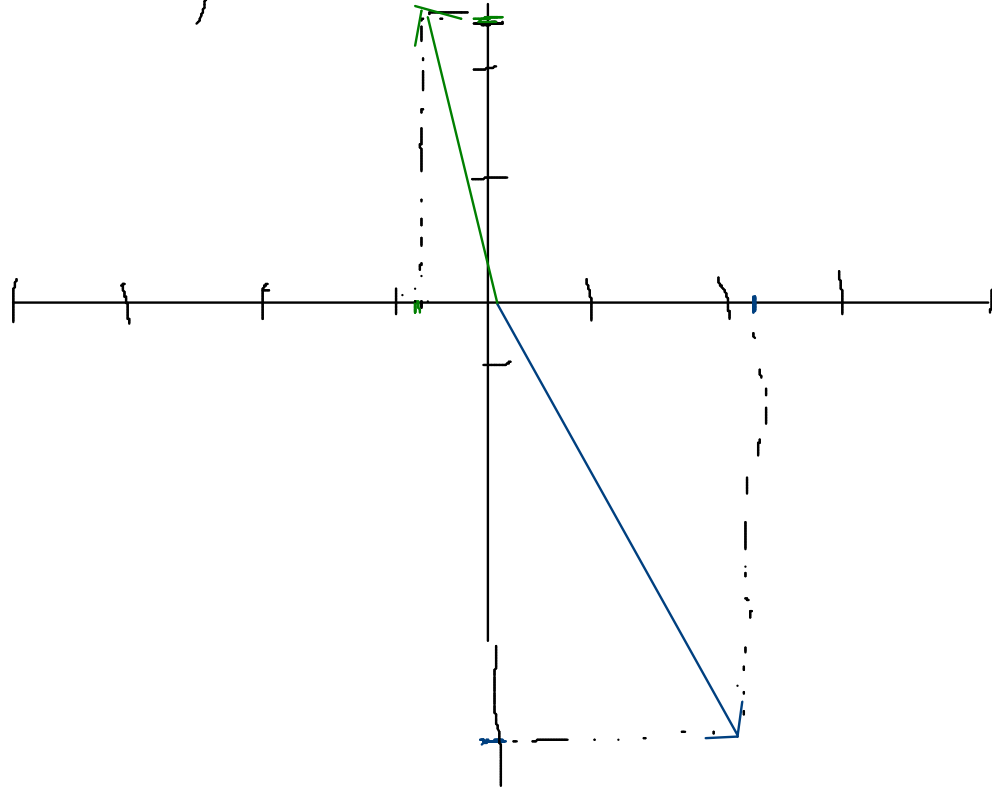


$M =$

$$\vec{d} = \left( \frac{-1}{\sqrt{2}}, \frac{5}{2} \right) \quad \vec{b} = \left( \frac{3}{\sqrt{2}}, -\frac{15}{2} \right)$$

$$(0-0)\hat{x} + (0-0)\hat{y} + \left( \frac{15}{2\sqrt{2}} - \frac{15}{2\sqrt{2}} \right)\hat{z}$$

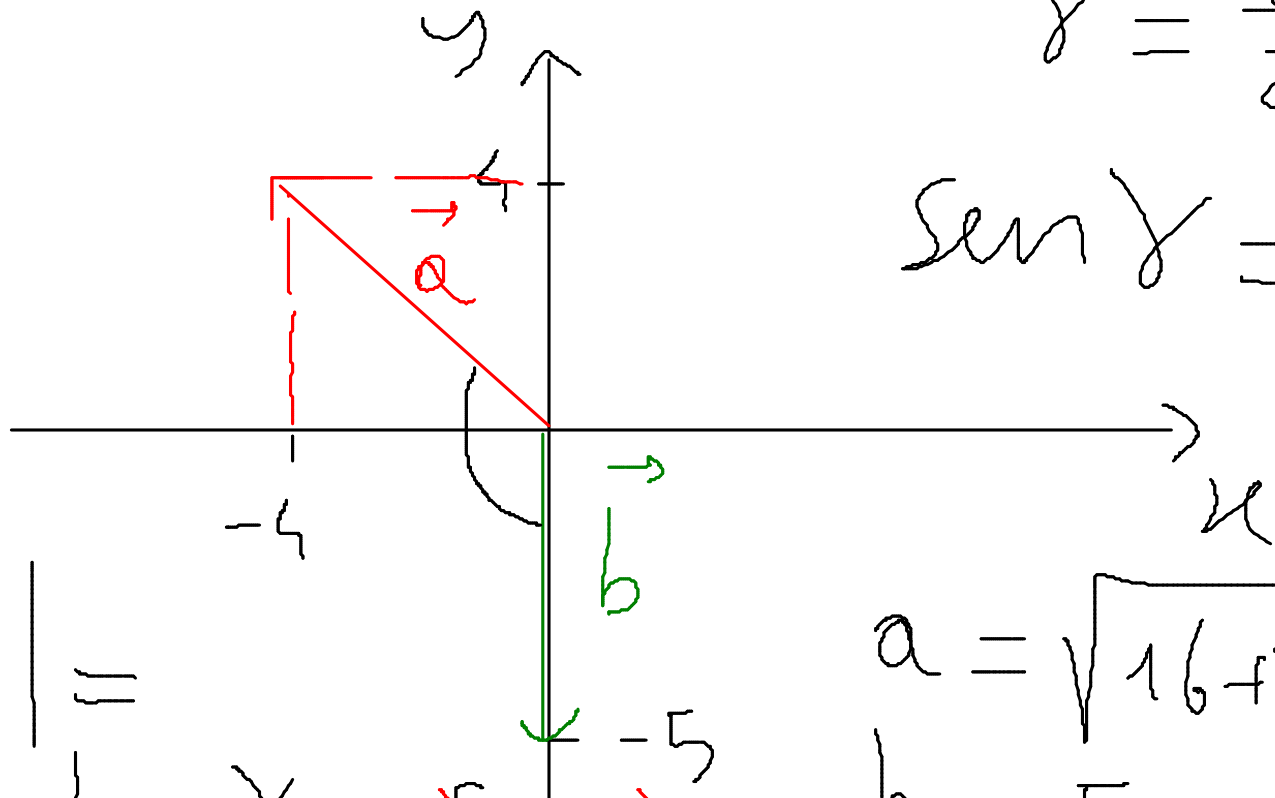
$$0\hat{x} + 0\hat{y} + 0\hat{z} = \mathbf{0}$$



$$\vec{a} = (-4, 4) \quad \vec{b} = (0, -5)$$

$$\gamma = \frac{\pi}{2} + \frac{\pi}{4} = \frac{3\pi}{4}$$

$$\sin \gamma = \frac{\sqrt{2}}{2}$$



$$|\vec{a} \times \vec{b}| =$$

$$a = \sqrt{16+16} = 4\sqrt{2}$$

$$b = 5$$

$$= a b \sin \gamma = 4\sqrt{2} \cdot 5 \cdot \frac{\sqrt{2}}{2} = 20$$

$$C_x = a_y b_z - a_z b_y = 0$$

$$C_y = 0$$

$$C_z = a_x b_y - a_y b_x$$

$$= -4(-5) - 4 \cdot 0$$

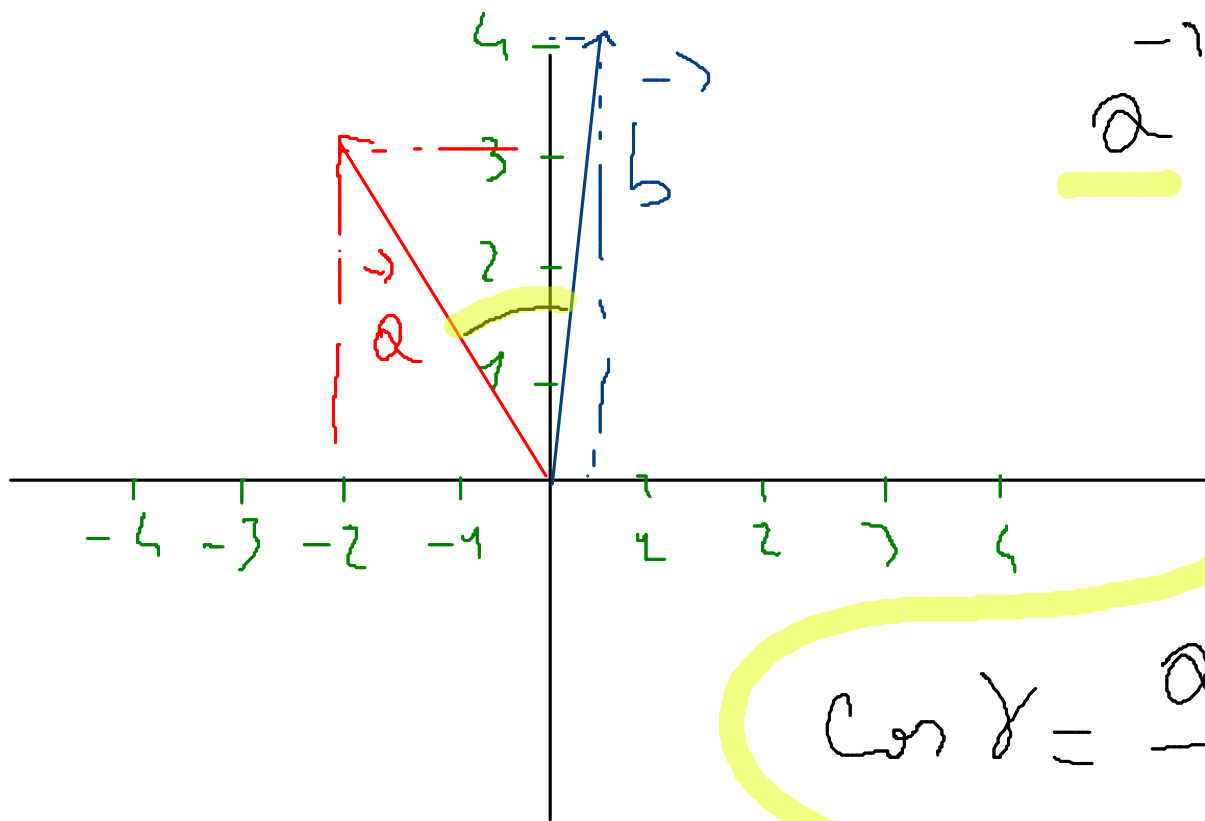
$$= 20$$

$$C_x = a_y b_z - a_z b_y$$

$$C_y = a_z b_x - a_x b_z$$

$$C_z = a_x b_y - a_y b_x$$

$$\vec{a} = (-2, 3) \quad \vec{b} = \left(\frac{1}{2}, 4\right)$$

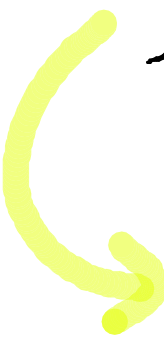


$$\vec{a} \cdot \vec{b} = ab \cos \gamma$$

$$= a_x b_x + a_y b_y$$

$$\cos \gamma = \frac{a_x b_x + a_y b_y}{ab}$$

$$\sin^2 \gamma + \cos^2 \gamma = 1$$


$$\sin \gamma = \sqrt{1 - \cos^2 \gamma}$$

$$a = \sqrt{4 + 9} = \sqrt{13}$$

$$b = \sqrt{\frac{1}{4} + 16} = \sqrt{\frac{65}{4}} = \frac{\sqrt{65}}{2}$$