

Esempi

Determinare le componenti cartesiane dei seguenti vettori (forze) e della risultante

$$\alpha_1 = \arctan \frac{600 \text{ mm}}{800 \text{ mm}} = 0.644 \text{ rad}$$

$$F_{1x} = 800 \cos(\alpha_1) \text{ N} = 640 \text{ N}$$

$$F_{1y} = 800 \sin(\alpha_1) \text{ N} = 480 \text{ N}$$

$$F_{1z} = 0$$

$$\alpha_2 = \arctan \frac{900 \text{ mm}}{480 \text{ mm}} = 1.08 \text{ rad}$$

$$F_{2x} = 408 \cos(\alpha_2) \text{ N} = 192 \text{ N}$$

$$F_{2y} = -408 \sin(\alpha_2) \text{ N} = -360 \text{ N}$$

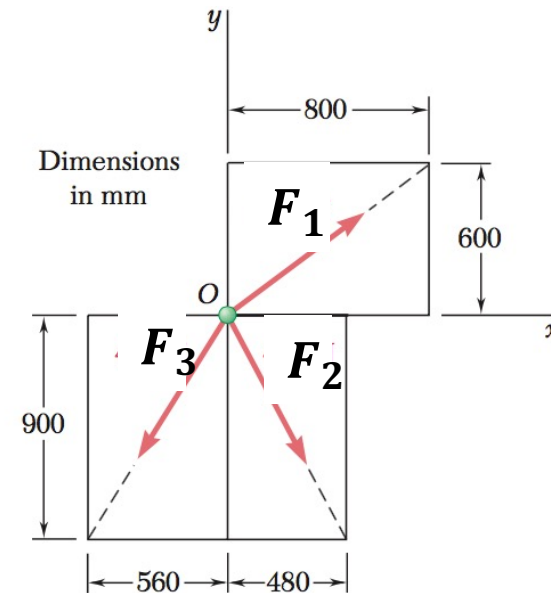
$$F_{2z} = 0$$

$$\alpha_3 = \arctan \frac{900 \text{ mm}}{560 \text{ mm}} = 1.01 \text{ rad}$$

$$F_{3x} = -424 \cos(\alpha_3) \text{ N} = -216 \text{ N}$$

$$F_{3y} = -424 \sin(\alpha_3) \text{ N} = -346 \text{ N}$$

$$F_{3z} = 0$$



$$F_1 = 800 \text{ N}$$

$$F_2 = 408 \text{ N}$$

$$F_3 = 424 \text{ N}$$

$$R_x = F_{1x} + F_{2x} + F_{3x} = 616 \text{ N}$$

$$R_y = F_{1y} + F_{2y} + F_{3y} = -226 \text{ N}$$

$$R_z = F_{1z} + F_{2z} + F_{3z} = 0$$