

**Rotiere jede Form. Antworte mit dem neuen Koordinatenpunkt.** $\theta = \text{\AA ngulo de rota\c{c}\~ao}$ **F3rmula de rotaci3n**

$$x1 = x \times \cos(\theta) - y \times \sin(\theta)$$

$$y1 = x \times \sin(\theta) + y \times \cos(\theta)$$

En el ejemplo de la derecha, la forma est3 en las coordenadas (1,4).

Vamos encontrar as coordenadas se girarmos a forma em 60°.



$$1. \quad \begin{aligned} x1 &= 1 \times \cos(60) - 4 \times \sin(60) \\ y1 &= 1 \times \sin(60) + 4 \times \cos(60) \end{aligned}$$

$$2. \quad \begin{aligned} x1 &= 1 \times 0.5 - 4 \times 0.87 \\ y1 &= 1 \times 0.87 + 4 \times 0.5 \end{aligned}$$

$$3. \quad \begin{aligned} x1 &= 0.5 - 3.48 \\ y1 &= 0.87 + 2 \end{aligned}$$

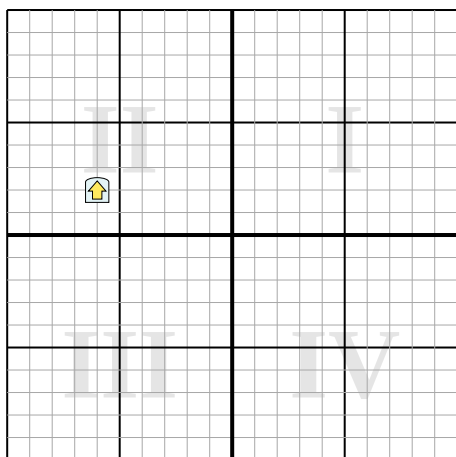
$$4. \quad \begin{aligned} x1 &= -2.98 \\ y1 &= 2.87 \end{aligned}$$

5. Al observar la forma, podemos ver que girado 60° est3 en (-2.98, 2.87).

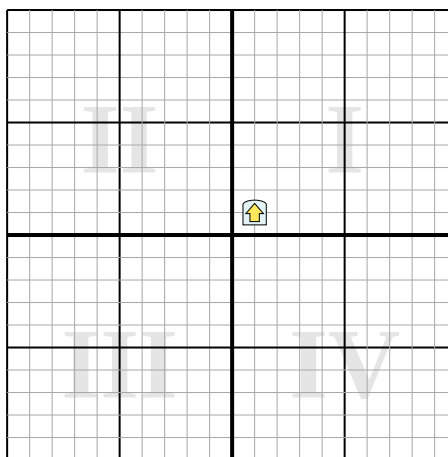
Antworten

1. _____
2. _____
3. _____
4. _____

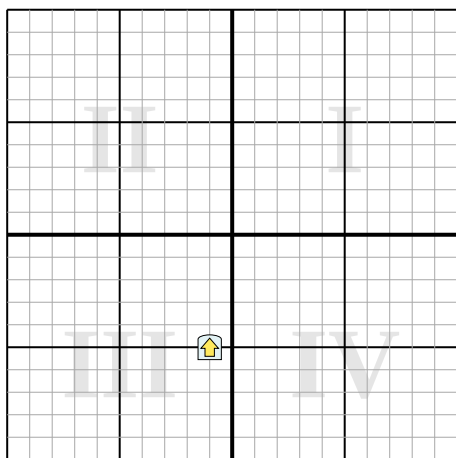
- 1) Rotiere die Figur 203° um den Punkt (0,0).



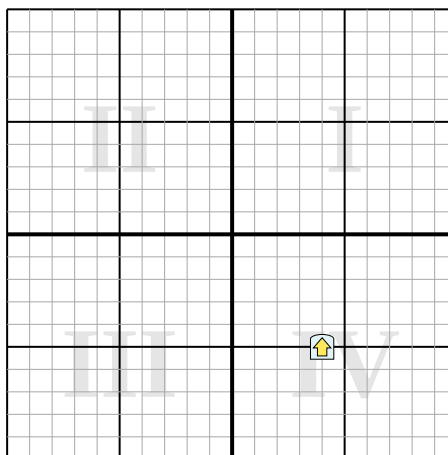
- 2) Rotiere die Figur -120° um den Punkt (0,0).



- 3) Rotiere die Figur 183° um den Punkt (0,0).



- 4) Rotiere die Figur -35° um den Punkt (0,0).



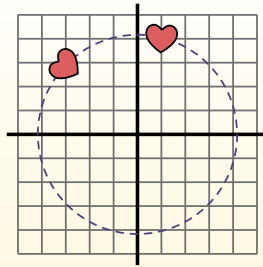
**Rotiere jede Form. Antworte mit dem neuen Koordinatenpunkt.** $\theta = \text{Ângulo de rotação}$ **Fórmula de rotación**

$$x1 = x \times \cos(\theta) - y \times \sin(\theta)$$

$$y1 = x \times \sin(\theta) + y \times \cos(\theta)$$

En el ejemplo de la derecha, la forma está en las coordenadas (1,4).

Vamos encontrar as coordenadas se girarmos a forma em 60°.



$$1. \quad \begin{aligned} x1 &= 1 \times \cos(60) - 4 \times \sin(60) \\ y1 &= 1 \times \sin(60) + 4 \times \cos(60) \end{aligned}$$

$$2. \quad \begin{aligned} x1 &= 1 \times 0.5 - 4 \times 0.87 \\ y1 &= 1 \times 0.87 + 4 \times 0.5 \end{aligned}$$

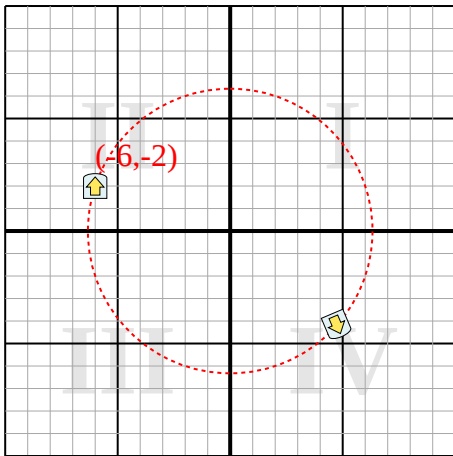
$$3. \quad \begin{aligned} x1 &= 0.5 - 3.48 \\ y1 &= 0.87 + 2 \end{aligned}$$

$$4. \quad \begin{aligned} x1 &= -2.98 \\ y1 &= 2.87 \end{aligned}$$

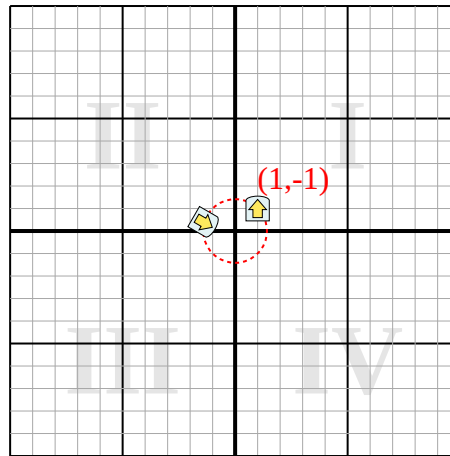
5. Al observar la forma, podemos ver que girado 60° está en (-2.98, 2.87).

Antworten1. **(4,7,-4,2)**2. **(-1,4,0,4)**3. **(1,3,4,9)**4. **(6,1,-1,8)**

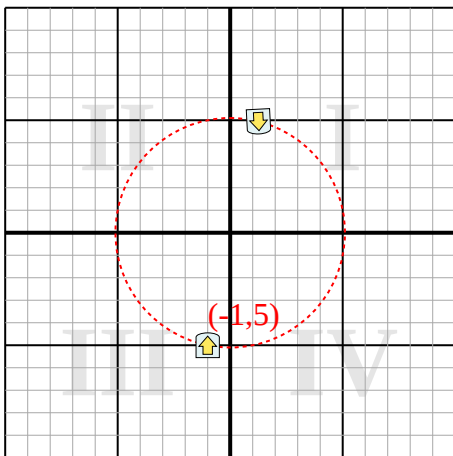
1) Rotiere die Figur 203° um den Punkt (0,0).



2) Rotiere die Figur -120° um den Punkt (0,0).



3) Rotiere die Figur 183° um den Punkt (0,0).



4) Rotiere die Figur -35° um den Punkt (0,0).

