



Rotiere jede Form. Antworte mit dem neuen Koordinatenpunkt.

$\theta = \hat{\text{Ángulo de rotação}}$

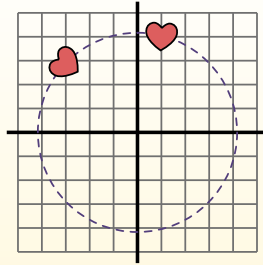
Fórmula de rotación

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

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

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. $x1 = 1 \times \cos(60) - 4 \times \sin(60)$
 $y1 = 1 \times \sin(60) + 4 \times \cos(60)$

2. $x1 = 1 \times 0.5 - 4 \times 0.87$
 $y1 = 1 \times 0.87 + 4 \times 0.5$

3. $x1 = 0.5 - 3.48$
 $y1 = 0.87 + 2$

4. $x1 = -2.98$
 $y1 = 2.87$

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

Antworten

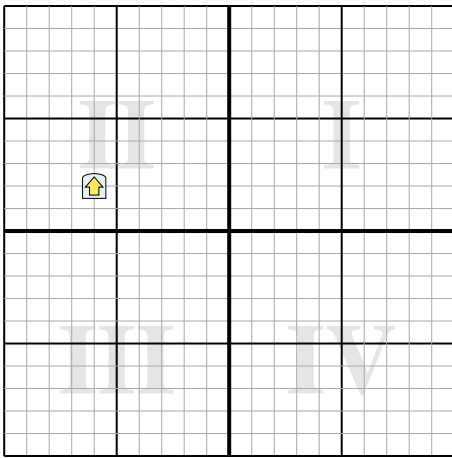
1. _____

2. _____

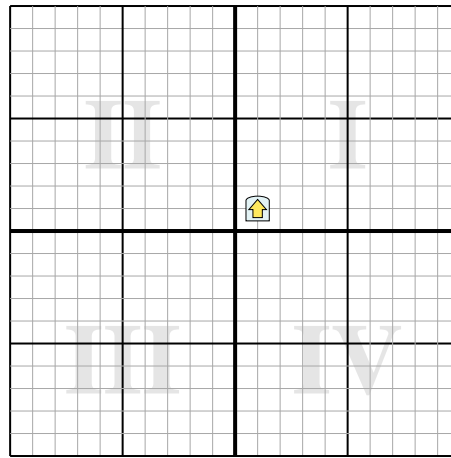
3. _____

4. _____

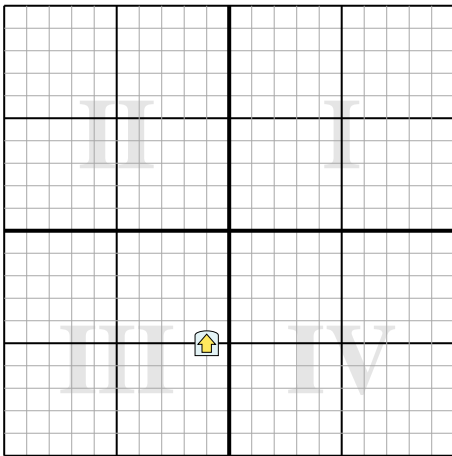
1) Rotiere die Figur 203° um den Punkt (0,0).



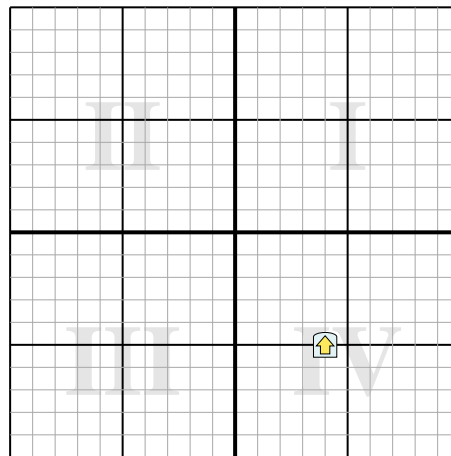
2) Rotiere die Figur -120° um den Punkt (0,0).



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



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





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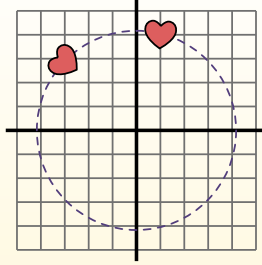
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$$3. \quad \begin{aligned} x1 &= 0.5 - 3.48 \\ y1 &= 0.87 + 2 \end{aligned}$$

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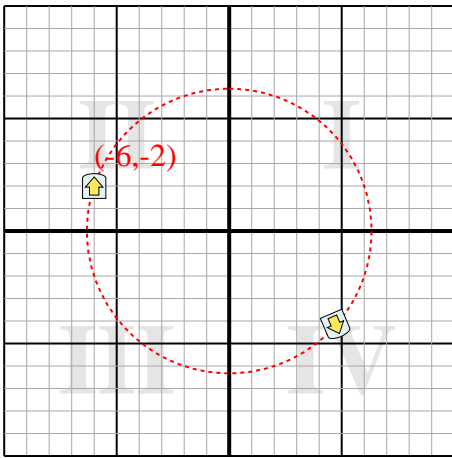
1. **(4,7,-4,2)**

2. **(-1,4,0,4)**

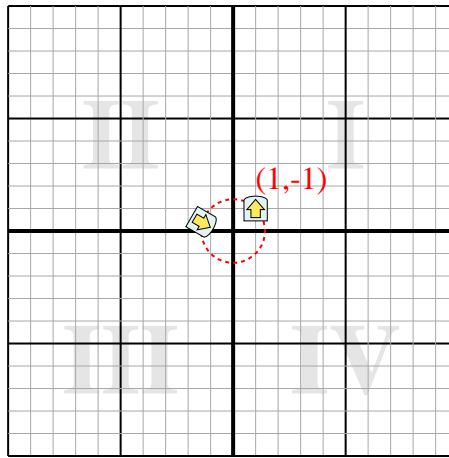
3. **(1,3,4,9)**

4. **(6,1,-1,8)**

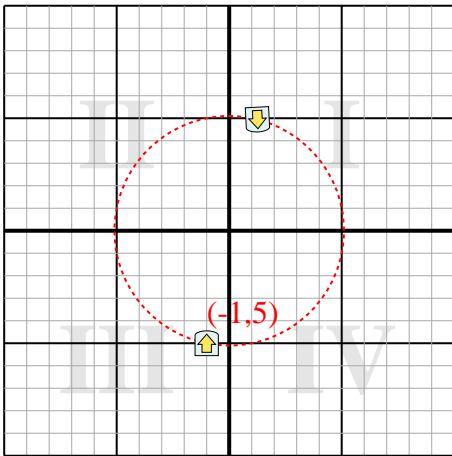
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