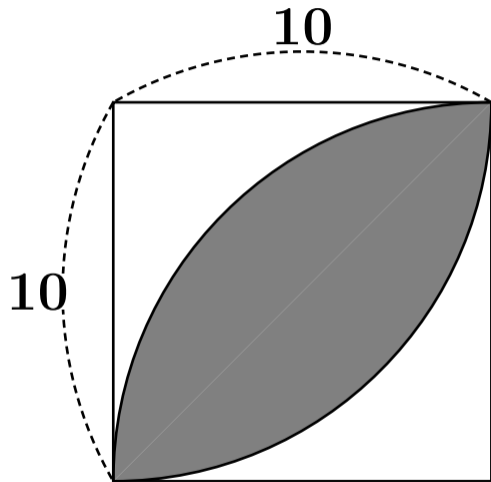
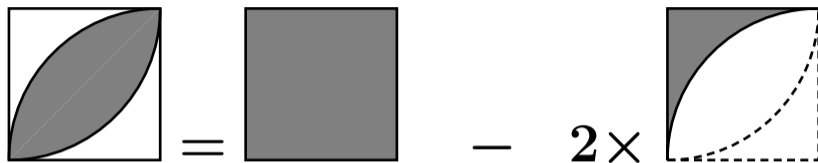


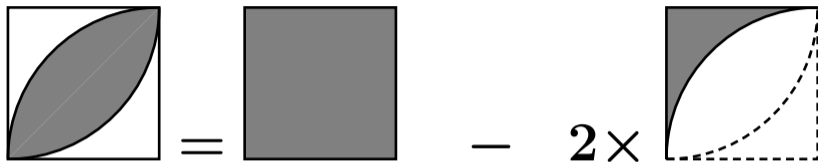
面積を求めなさい



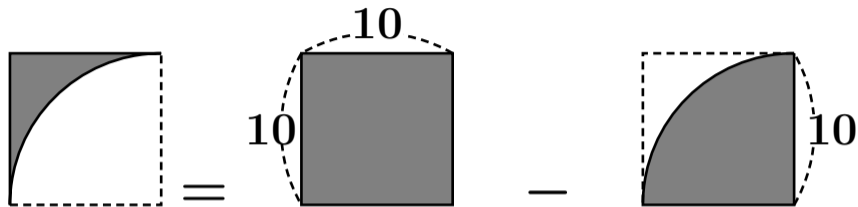
面積を求めなさい



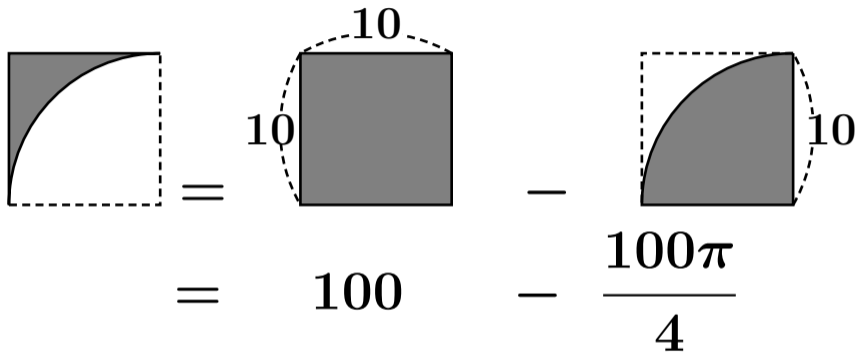
面積を求めなさい



面積を求めなさい



面積を求めなさい



The diagram illustrates the calculation of the area of a square with a quarter-circle cutout. The square has a side length of 10. The area is calculated as the area of the square minus the area of the quarter-circle.

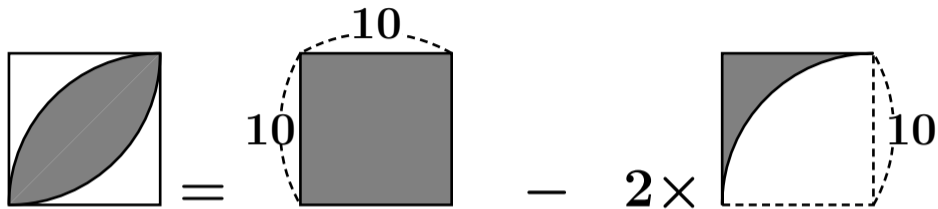
$$\begin{aligned} &= 100 - \frac{100\pi}{4} \end{aligned}$$

面積を求めなさい

The diagram illustrates the calculation of the area of a square with a quarter-circle cut out. The square has a side length of 10. The quarter-circle has a radius of 10. The area is calculated as follows:

$$\begin{aligned} &= 100 - \frac{100\pi}{4} \\ &= 100 - 25\pi \end{aligned}$$

面積を求めなさい

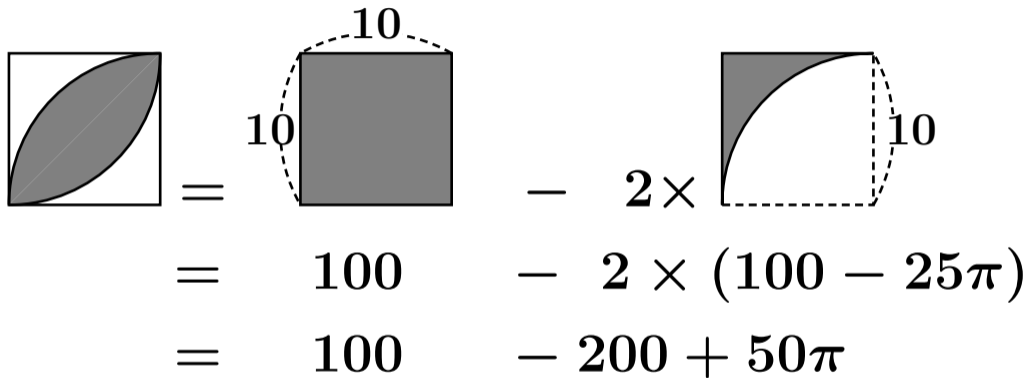


面積を求めなさい

The diagram illustrates the calculation of the area of a lens-shaped region. On the left, a square contains a lens-shaped region shaded in gray, formed by two quarter-circles of radius 10. This is equated to a 20x20 square with a dashed arc of radius 10 connecting the top and bottom corners. The area of this square is 100. This is then equated to the area of the square minus two quarter-circles, each with an area of $100 - 25\pi$.

$$\begin{aligned} &= 100 - 2 \times (100 - 25\pi) \end{aligned}$$

面積を求めなさい

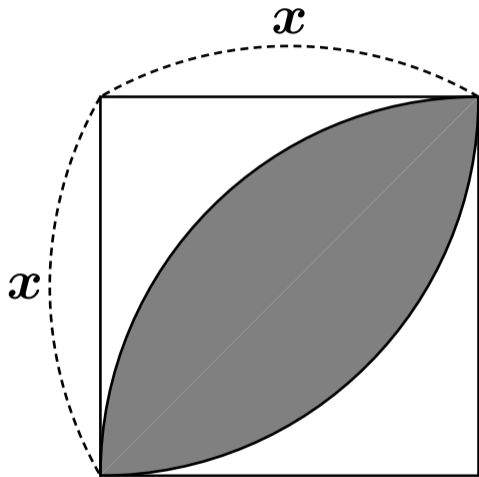

$$\begin{aligned} &= \begin{array}{c} 10 \\ \text{---} \\ \text{---} \\ \text{---} \\ \text{---} \\ \text{---} \\ \text{---} \\ \text{---} \\ \text{---} \\ \text{---} \\ \text{---} \\ 10 \end{array} - 2 \times \begin{array}{c} \text{---} \\ \text{---} \\ \text{---} \\ \text{---} \\ \text{---} \\ \text{---} \\ \text{---} \\ \text{---} \\ \text{---} \\ \text{---} \\ 10 \end{array} \\ &= 100 - 2 \times (100 - 25\pi) \\ &= 100 - 200 + 50\pi \end{aligned}$$

面積を求めなさい

The diagram illustrates the calculation of the area of a lens-shaped region. The lens is formed by two quarter-circles of radius 10, each centered at a corner of a square with side length 10. The area is calculated as follows:

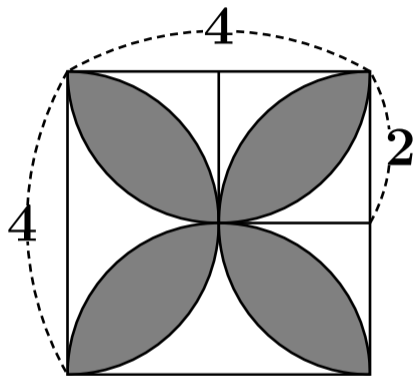
$$\begin{aligned} &= \text{Area of square} - 2 \times (\text{Area of square} - \text{Area of quarter-circle}) \\ &= 100 - 2 \times (100 - 25\pi) \\ &= 100 - 200 + 50\pi \\ &= 50\pi - 100 \end{aligned}$$

一般化すると下記のようになる

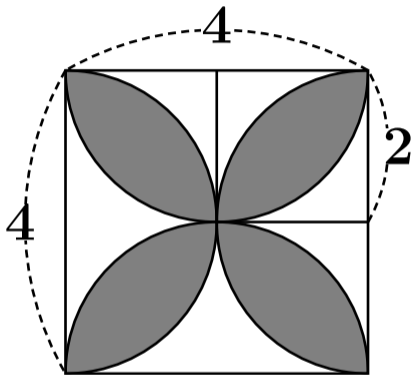


$$\frac{x^2}{2}\pi - x^2$$

応用問題

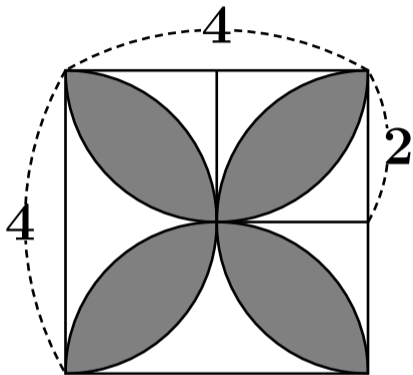


応用問題



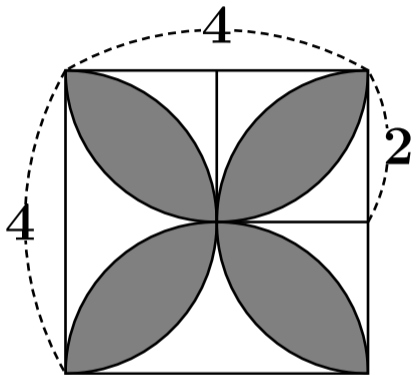
$$4 \times \left(\frac{2^2}{2} \pi - 2^2 \right)$$

応用問題



$$\begin{aligned} & 4 \times \left(\frac{2^2}{2} \pi - 2^2 \right) \\ &= 4 \times (2\pi - 4) \end{aligned}$$

応用問題



$$\begin{aligned} & 4 \times \left(\frac{2^2}{2} \pi - 2^2 \right) \\ &= 4 \times (2\pi - 4) \\ &= 8\pi - 16 \end{aligned}$$