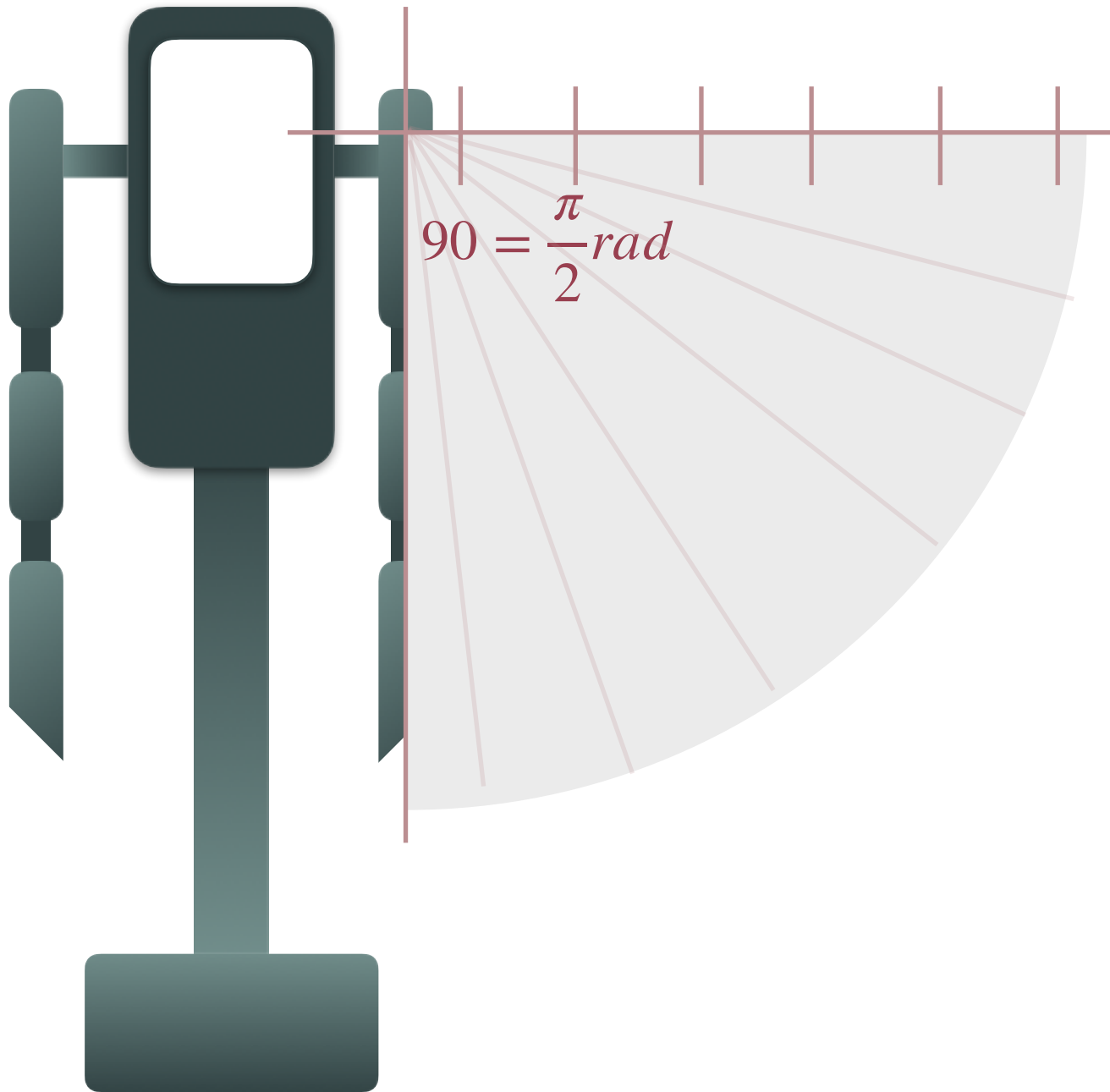


Finding arm movement area



The area of the circular sector

$$\begin{aligned} \uparrow \\ A &= \frac{1}{2}r^2 \\ A &= \frac{1}{2} \times 6^2 \times \frac{\pi}{2} \\ &= \frac{1}{2} \times 36 \times \frac{\pi}{2} \\ &= \frac{36\pi}{4} \end{aligned}$$