

11.4 Circumference & Arc Length

$$\frac{C}{d} \approx 3.14 \quad \text{hey... is } \pi$$

$$\text{So } \frac{C}{d} = \pi \quad \text{or } \frac{C}{d} \times \frac{\pi}{\pi} \rightarrow C = \pi d$$

$$C = \pi d \quad C = 2\pi r$$

$$* d = 2r$$

Example

① Find Circumf of \odot w/ $r = 9$ in

$$d = 18$$

$$C = \pi(18) = 56.5 \text{ in}$$

$$C = 2\pi \cdot 9 \rightarrow$$

② Find r for \odot with circumf of 26m.

$$C = 2\pi r$$

$$\frac{26}{2} = 2\pi r$$

$$13 = \pi r \quad r = 4.1 \text{ m}$$

You push your cart & see the tire valve stem go around 15 times.
If you have 26 inch tires, how far did you push it?

$$C = 2\pi r$$

$$C = 2\pi(13) \\ = 81.68 \text{ in}$$

So 15 revolutions:

$$15 * 81.68 \\ = 1225.2 \text{ in} \quad \text{or} \quad 102.1 \text{ ft}$$



How far it goes
for one full
revolution = Circumf.