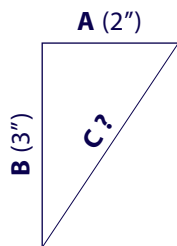


Question

The grade of material I want is only available in round bar but my component is square – what size rod do I need?

Answer



$$A \times A = 4''$$

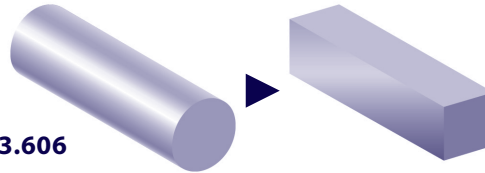
$$B \times B = 9''$$

$$\text{Total} = 13''$$

$$\text{Square root } 13 = 3.606$$

$$\text{Therefore } C = 3.606$$

so 3¾ dia probably nearest size



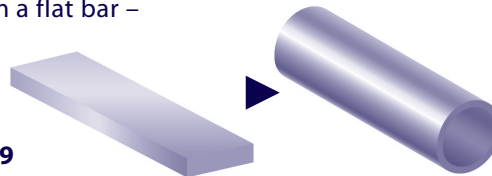
Question

I need to roll a ring of 30" dia from a flat bar – what length of bar do I require?

Answer

$$\text{Diameter} \times \pi (\pi) \text{ ie. } 30 \times 3.14159$$

$$\text{therefore min length required} = 94.25''$$



Question

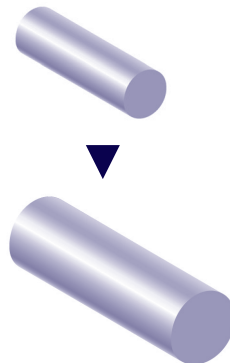
Why is it if I double the diameter of an item the price increases 4 fold?

Answer

By doubling the diameter you are increasing the area (ie. quantity of metal) by approximately 4 times ie.

$$1'' \text{ dia steel} = 3.98\text{kg per metre}$$

$$2'' \text{ dia steel} = 15.9\text{kg per metre}$$



Question

I want to make some hexagonal nuts but the grade of material is only available in round – what size do I need (ie. what is the dimension across the corners of the hexagon – as opposed to across the flats)?

Answer

$$\text{Width across flats} \times 1.1548 = \text{Width across corners}$$

$$\text{So } 0.5'' \text{ across flats} = 0.577 \text{ across corners}$$

so 15mm dia rod is probably the closest.

