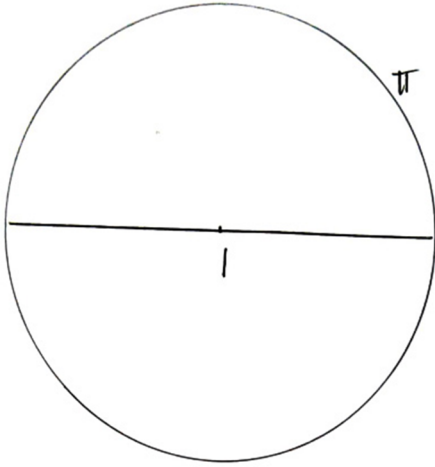


**DOES THE CIRCUMFERENCE OF A  
CIRCLE EXIST IN ITS DIAMETER?  
(2540<sup>th</sup> Paper)**



The Diameter =  $1 = d$

Circumference =  $\pi d$

$$= \pi \times 1 = \pi$$

Let

$$2(\pi - 3) + 2(\pi - 3)(1 + \sqrt{2}) = 1$$

$$2\pi - 6 + (2\pi - 6)(1 + \sqrt{2}) = 1$$

$$2\pi - 6 + 2\pi + 2\sqrt{2}\pi - 6 - 6\sqrt{2} = 1$$

$$4\pi + 2\sqrt{2}\pi - 12 - 6\sqrt{2} = 1$$

$$2\pi(2 + \sqrt{2}) = 13 + 6\sqrt{2}$$

$$\pi = \frac{13 + 6\sqrt{2}(2 - \sqrt{2})}{2(2 + \sqrt{2})(2 - \sqrt{2})}$$

$$\pi = \frac{26 - 13\sqrt{2} + 12\sqrt{2} - 12}{2(4 - 2)}$$

$$\pi = \frac{14 - \sqrt{2}}{4}$$

**R. Sarva Jagannadha Reddy**

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