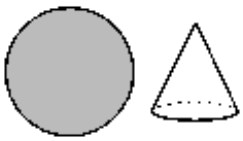
11. Coco is making clown hats from a circular piece of cardboard. The circumference of the base of each hat equals its slant height, which in turn is equal to the radius of the piece of cardboard. What is the maximum number of hats that Coco can make from the piece of cardboard?



A 3 B 4 C 5 D 6 E 7

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11. D Let the radius of the circular piece of cardboard be r. The diagram shows a sector of the circle which would make one hat, with the minor arc shown becoming the circumference of the base of the hat. The circumference of the circle is $2\pi r$. Now $6r < 2\pi r < 7r$. This shows that we can cut out 6 hats in this fashion and also shows that the area of cardboard unused in cutting out *any* 6 hats is less than the area of a single hat. Hence there is no possibility that more than 6 hats could be cut out.