**Geometry HW – Inscribed and Circumscribed Circles and Arc Length (Due 3/17)**

1. Sketch triangle *ABC*. Sketch an inscribed circle in △*ABC*. Sketch a circle that circumscribes △*ABC*. Do you think every triangle can have an inscribed and circumscribed circle?
2. Sketch circle *P*. Sketch a circumscribed rectangle about circle *P*. Sketch a rectangle inscribed in circle *P*. What do you notice? Do you think this true for all rectangles?
3. Determine if the following statement is true or false. If it is true, write a short explanation of your reasoning, including all the important geometric properties.

If a parallelogram is inscribed within a circle, then the parallelogram is a rectangle.

 **Given:** Circle *Y* with inscribed parallelogram *GOLD*

**Show:** *GOLD* is a rectangle

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1. Find the length of $\hat{CD}$.

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1. Find the length of $\hat{BIG}$.

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1. The radius is 18 ft. Find the length of $\hat{RT}.$

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1. The length of $\hat{AR}$ is 40$π$. $\overleftrightarrow{CA}||\overleftrightarrow{RE}. $Find the radius.

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