**Circle Functions**

Today we will be investigating what happens when we change the equation of the circle, Go to Desmos.com and complete the questions below with your partner.

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1. **The Parent Function:** The parent function for the circle function family is Graph the function.

Where is the center?

What is the radius?

1. **Graphing circles of the form .**
2. Graph **.** b. Graph **.**

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What happened to the graph? What happened to the graph?

1. What effect does *h* have on the graph of **?**
2. **Graphing circles of the form .**
3. Graph **.** b. Graph **.**

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What happened to the graph? What happened to the graph?

1. What effect does *k* have on the graph of ?
2. **Graphing circles of the form**
3. Graph . b. Graph .

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What happened to the graph? What happened to the graph?

1. What effect does changing what the equation equalshave on the graph of ?

**Generalize: Equation of a Circle:**

**Center: Radius:**

1. Graph each of the following equations:
2. b.

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Center: Center:

Radius: Radius: