HAP 2.5 Inverse and DIrect proportion Word Problems
Equations of a circle with ceter at (h, k) with radius r:

- Construct a model using direct variation:

- Construct a model using inverse variation

- Construct a model using joint or combined variation

1. The monthly payment p on a mortgage varies directly with the amount borrowed B. If the monthly payment on a 30-year mortgage is \$5.75 for every \$1000 borrowed, find a function $p = p(B)$ that relates the monthly payment p to the amount borrowed B for a mortgage with the same terms. Then find the monthly payment p when the amount borrowed B is \$225,000.

2. The length of a violin string varies inversely as the frequency of its vibrations. If a string 8 inches long vibrates at a frequency of 640 cycles per second, what is the frequency of a string that is 10 inches long?

3. The volume of a cone, V, varies jointly as its height, h, and the square of its radius, r. A cone with a radius of 4 cm, and a height of 6 cm, has a volume of 32π Find the volume of a cone having a radius of 15 cm and a height of 30 cm.