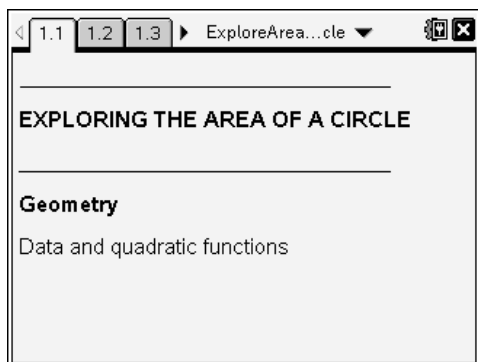# Exploring the Area of a Circle
ExploreAreaofCircle.tns

Name _____

Class _____

Open the file *ExploreAreaOfCircle.tns* on your handheld and follow along with your teacher to work through the activity. Use this document as a reference and to record your answers.

In this activity, you will explore the area of a circle by capturing and modeling data with quadratic functions, first by transforming the graph of $y = x^2$, and then by performing a quadratic regression. *Follow your teachers instructions to:*

- Create a scatter plot of the data
- Manually fit a quadratic to the data
- Perform a quadratic regression of the data. Record the equations below.

$y =$ _____ $\textbf{f1}(x) =$ _____

Exercises

1. Compare the equations above. Describe any similarities and/or differences.

2. What are the independent and dependent variables in this exploration?

3. What is the domain and range of both the functions?

4. Why is the domain restricted to the 1st quadrant?

5. Consider both functions, they are in the form $y = ax^2$. What does the constant value *a* represent in this context? What does the variable *x* represent?