



PARKSIDE CHRISTIAN ACADEMY

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## Weekly Sheet for HS-2 Algebra II

Mr. Charlton

Week # \_4\_      Dates: Sept 19, 2011 – Sept 23, 2011

### Topics/Content/Skills:

**Topic:** The trouble of being a circle in a world of squares.

**Content:**

This lesson introduces the first conic section - a circle. In this exercise about coordinate geometry students will learn how to graph equations and discover the geometric figures that this equation represents. Students will also learn how to write the equations for geometric figures for which they already have certain information.

**Skills:** Students will be able to:

- demonstrate knowledge of what a circle is by relating the connection between the distance formula, the definition of a circle, and the equation of a circle.
- construct a circle after being given an equation or characteristics of a circle.
- demonstrate recognition of a circle given its equation or relevant characteristics.

### Vocabulary/Key Terms/Formulas:

**Vocabulary:**

- a. An **absolute value function** has a special characteristic in that the function will not be negative.
- b. A **transformation** changes a graph's size, shape, position, or orientation.
- c. A **translation** is a transformation that shifts a graph horizontally and/or vertically, but does not change its size, shape, or orientation.
- d. A **vertical stretch** occurs when the coefficient of the variable is greater than one.
- e. A **vertical compression** occurs when the coefficient of the variable is less than one.
- f. A **reflection** occurs across the x-axis when the coefficient changes signs from positive to negative or vice versa.
- g. A **Circle** is a round plane figure whose boundary (the circumference) consists of points equidistant from a fixed center.

**Key Terms:** All

**Formula:**

- $Abs(x) = y$
- $x^2 + y^2 = r^2$

**Homework:**

	<b><u>Lesson</u></b>	<b><u>Homework</u></b>
<b><u>Monday</u></b>	Graphing of Circle functions	Student will: <ul style="list-style-type: none"> <li>• review the link on Khan academy (<a href="http://www.khanacademy.org/video/absolute-value-equations-1?playlist=Algebra%20I%20Worked%20Examples">http://www.khanacademy.org/video/absolute-value-equations-1?playlist=Algebra%20I%20Worked%20Examples</a>)</li> <li>• Complete the two worksheets given out in class</li> </ul>
<b><u>Tuesday</u></b>	Practice, practical applications and review of Circle.	Student will: <ul style="list-style-type: none"> <li>• Have no homework</li> </ul>
<b><u>Wednesday</u></b>	Graphing of Circles: The Project art 1	Student will: <ul style="list-style-type: none"> <li>• review the link on Khan academy <a href="http://www.khanacademy.org/video/unit-circle-definition-of-trig-functions?playlist=Trigonometry">http://www.khanacademy.org/video/unit-circle-definition-of-trig-functions?playlist=Trigonometry</a></li> <li>• Complete project activity sheets given out by teacher.</li> </ul>
<b><u>Thursday</u></b>	Graphing of Circles: The Project part 2 <ul style="list-style-type: none"> <li>• Quiz based on Khan academy video</li> </ul>	Students will: <ul style="list-style-type: none"> <li>• Continue working on the activity sheets given in class.</li> <li>• Project due September 26, 2011</li> </ul>
<b><u>Friday</u></b>	No Class	

**Tests:**

Quiz

**Special Events/News:**

NA

**Extra-ordinaries/Mastery Review Material:**

**Answer the Following:**

- $Y^2+X^2 =9$
- $Y^2+X^2 =16$
- $Y^2+X^2 =25$
- $Y^2+X^2 =36$
- $Y^2+X^2 =49$

What is the radius of the circles on the left?

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Equation of Circle in Standard Form

- $(y-3)^2+(X-1)^2 =9$
- $(y-5)^2+(X-14)^2 =16$
- $(y-1)^2+(X-5)^2 =25$
- $(X+2)^2+(y-12)^2 =36$
- $(y+7)^2+(X +5)^2 =49$
- $(X +8)^2+(y+17)^2 =49$

What is the center and radius of each circle to the left?