Name\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Date\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Block\_\_\_\_\_\_\_\_

Algebra III Honors Pretest – Piecewise Functions

You may write on the test paper to show your work.

1.





2.

3.

4. Which graph represents the following equation? $(x-2)^{2}+(y-1)^{2}=9$





5. Sketch the graph of the function $f\left(x\right)=x+5, -3\leq x\leq 3$ by first making a table of values.

6.



7. The length of a rectangular plot of land is 15 meters and the width is 10 meters. A garden is planned for the interior of the plot with a walkway of width x surrounding the garden.

Answer each question thoroughly. Label everything.

1. Draw a diagram that represents the problem.
2. Write an equation that represents the perimeter y of the garden in terms of x.
3. Write an equation that represents the area z of the garden in terms of x.
4. Consider what value of x will maximize the area of the garden while still providing enough room for 2 people to walk side by side on the walkway. Use that value to find the dimensions of the garden and the area of the garden.