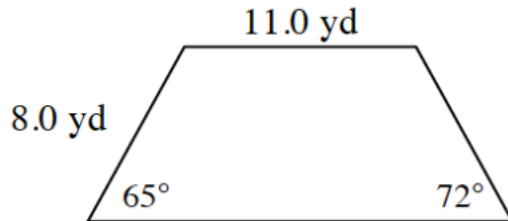


Name _____

Period ____ Date _____

Homework 6.2.5

1. Calculate the area and perimeter of the trapezoid below.



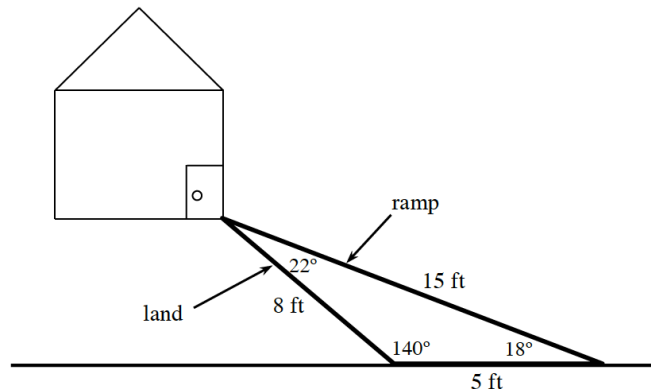
Area: _____ Perimeter: _____

2. Solve each quadratic equation. Be sure that you have found all of the solutions.

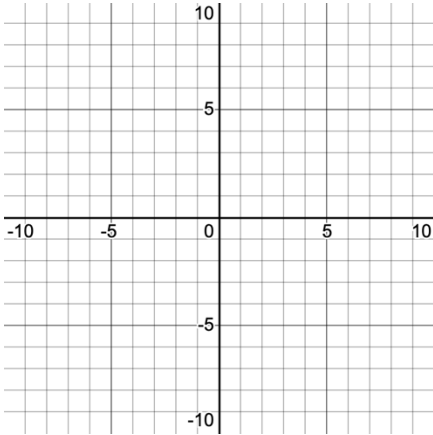
a. $16x^2 - 8x + 1 = 0$

b. $x^2 + x + 1 = 0$

3. Mariah is at her grandmother's house which is located up on a hill. It is a very difficult hill to climb as it is steep. There are stairs leading up to her grandmother's house. However, her grandmother now needs a ramp built so that she can use her wheelchair to get to the front door. Mariah designs a ramp and creates the diagram shown below. Is her diagram correct? Explain.



4. Graph quadrilateral MNPQ if $M(-3,6)$, $N(2,8)$, $P(1,5)$, and $Q(-4,3)$.
- a. What shape is MNPQ? Show how you know.
- b. Use the function $(x,y) \rightarrow (x,-y)$ to transform MNPQ into $M'N'P'Q'$. What are the coordinates of P' ? Describe the transformation.



5. You have a new puppy! Your puppy needs a place to play when you aren't at home. You decide to build a dog run. You have a 110-foot roll of fencing. You want to construct a rectangular dog pen. What are the dimensions of the largest such pen? What is the largest area? Create a function that models this situation and find the maximum area. Be sure to show the work that leads to your answer.
6. The product of two consecutive odd numbers is 323. Develop an equation and find the numbers. Show your work.