

Name _____

Period _____ Date _____

Homework 5.2.5 #1

1) Solve the following quadratic equation twice. $x^2 + 6x + 11 = 0$ Show your work.

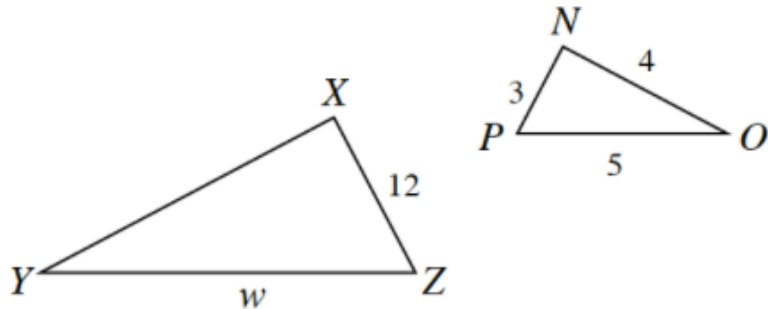
a) Using the Quadratic Formula

b) By Completing the Square

2) Calculate the value of the variable in each pair of similar figures below.

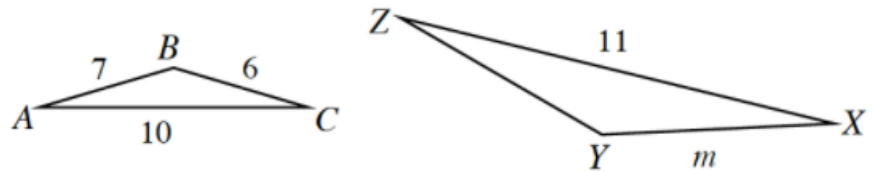
a)

$$\triangle NOP \sim \triangle XYZ$$



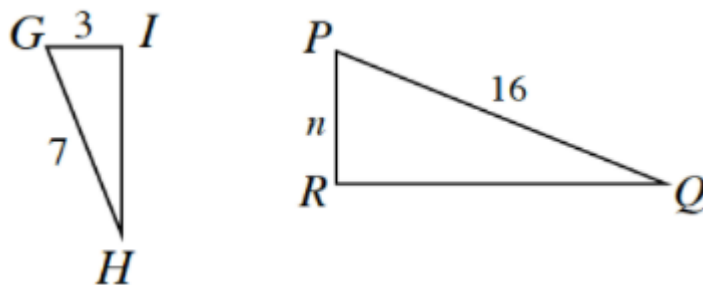
b)

$$\triangle ABC \sim \triangle XYZ$$



c)

$$\triangle GHI \sim \triangle PQR$$



3) Use the Zero Product Property to solve for the x-intercepts of the parabolas represented below.

a) $y = 3x^2 - 8x + 5$	b) $x^2 + 4x = y$
c) $y = (x - 6)(2x + 9)$	d) $y = 7(x + 6)(-2x + 9)$

4) Kamillah decides to calculate the height of the Empire State Building. She walks 1 mile (5280 feet) away from the tower and finds that she has to look up 18.5° to see the top.

- a) Draw a diagram to represent the situation
- b) Assuming Manhattan is flat, if Kamillah's eyes are 5 feet above the ground how tall is the Empire State Building?

5) Determine the values of θ and α in the diagram at right. State the relationships you used.

