Algebra 2 Honors- Week 11 Homework

**Monday-** Modeling the Speed of a Tsunami Activity- Finish whatever you did not finish during class.

Things you may need to know:

Alaska: 57.7931 degrees N, 152.3942 degrees W

Oregon: 44.6044 degrees N, 124.0547 degrees W

Hawaii: 19.7056 degrees N, 155.0858 degrees W

1 degree = 110 kilometers (N to S)

1 degree = 70 kilometers (E to W)

1 kilometer = 1000 meters

$a^{2}+b^{2}= c^{2}$ **a c**

 **b**

**Tuesday-**

 **Transformation of Quadratic Functions Assignment**

1. Write a function to represent the total area.



Draw a picture of the squares and sketch a graph for each function.

2. $f\left(x\right)=\frac{1}{2}x^{2}$ 3. $f\left(x\right)=x^{2}-5$ 4. $f\left(x\right)=2x^{2}$+3

Write a function to represent each graph.

5. 6. 7.



8. Write the equation of a quadratic function that translates up 12 and stretches by 5.

9. Write the equation of a quadratic function that translates down 3 and shrinks by 5.

10. Describe the similarities and differences between:

 $f\left(x\right)=x^{2}-1$ $f\left(x\right)=x^{4}-1$



**Wednesday-**

**Transformation of Quadratic Functions Day 2 Assignment**

Draw a picture of the squares and sketch a graph for each function.

1. $f\left(x\right)=3\left(x+4\right)^{2}$ 2. $f\left(x\right)=-4(x-1)^{2}+6$ 3. $f\left(x\right)=\frac{1}{3}(x-2)^{2}+1$ 4. $f\left(x\right)=\frac{5}{2}(x+2)^{2}-1$

Write a function to represent each graph.

5. 6. 7.

8. Write the equation of a quadratic function that translates down 7 and left 8.

9. Write the equation of a quadratic function that translates up 11, right 9, and stretches by 4.

10. What transformation will occur with $f\left(x\right)=(-x)^{2}$?

**Thursday-**

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**Friday-**

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