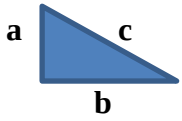
Name: _____ Date: _____ Block: _____

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

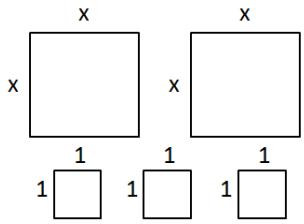
1 degree = 110 kilometers (N to S)
1 degree = 70 kilometers (E to W)
1 kilometer = 1000 meters
$a^2 + b^2 = c^2$



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.

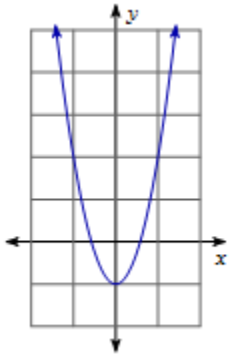
2. $f(x) = \frac{1}{2}x^2$

3. $f(x) = x^2 - 5$

4. $f(x) = 2x^2+3$

Write a function to represent each graph.

5.



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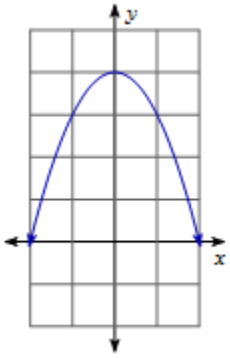

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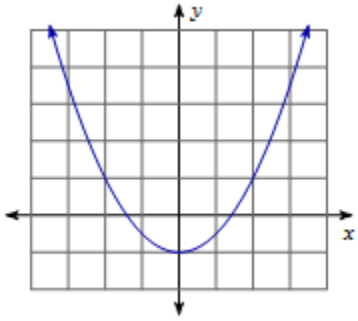

8. Write the equation of a quadratic function that translates up 12 and stretches by 5.

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

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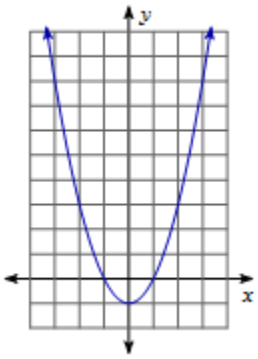
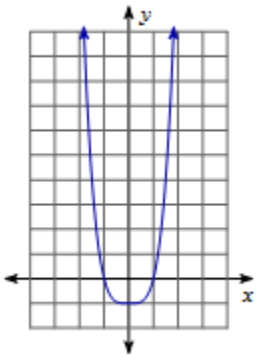
10. Describe the similarities and differences between:

$f(x) = x^2 - 1$ $f(x) = x^4 - 1$





Wednesday-

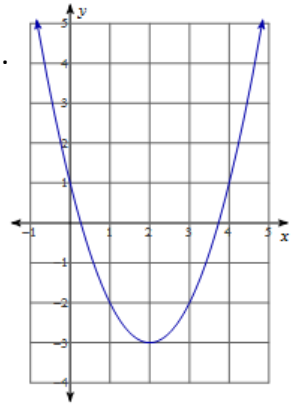
Transformation of Quadratic Functions Day 2 Assignment

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

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

Write a function to represent each graph.

5.



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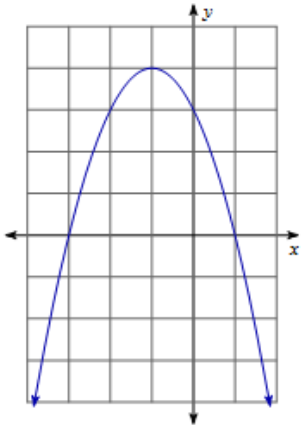

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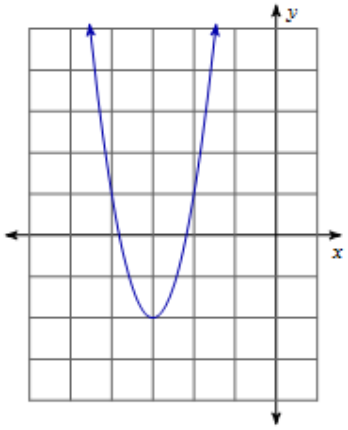

8. Write the equation of a quadratic function that translates down 7 and left 8.
9. Write the equation of a quadratic function that translates up 11, right 9, and stretches by 4.
10. What transformation will occur with $f(x) = (-x)^2$?

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Thursday-

ID: 1

Algebra 2 Name_____

Transformation of Square Root Functions Assignment Date_____ Period____

Identify the domain and range of each. Then sketch the graph.

1) $y=\sqrt{x-2}-2$

2) $y=-\frac{1}{2}\sqrt{x}$

3) $y=-2+\sqrt{x-3}$

4) $y=\frac{3}{4}\sqrt{x+4}$

5) $y=2\sqrt{x+3}-5$

6) $y=-\frac{1}{2}\sqrt{x+1}+5$

7) Write a square root function who translates up 4, right 6, and flips over the x-axis.

8) Write a square root function who translates down 2, right 11, and flips over the y-axis.

9) Explain how $f(x)=\sqrt[3]{x}$ will look different from $f(x)=\sqrt{x}$. You can use a chart, graph, or diagram in your explanation.

Friday-

ID: 1

Algebra 2 Name_____

Radical Equations Assignment Day 1 Date_____ Period____

Solve each equation. Remember to check for extraneous solutions.

1) $\sqrt{\frac{b}{6}}=6$

2) $\sqrt{16-2x}=6$

3) $5\sqrt{9n}=15$

4) $4=\sqrt{5r}+9$

5) $\sqrt{2k+19}-1=2$

6) $3\sqrt{3r+10}=6$

7) $\sqrt{5-k}=\sqrt{3k-11}$

8) $\sqrt{-3-3x}=\sqrt{3-x}$

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Algebra 2 Name_____

Radical Equations Day 2

Date_____ Period____

Solve each equation. Remember to check for extraneous solutions.

1) $k = \sqrt{30 - k}$

2) $p = \sqrt{2p}$

3) $k = \sqrt{-10 + 7k}$

4) $-n + \sqrt{n - 4} = -4$

5) $3 + \sqrt{7 - 3x} = x$

6) $-n + \sqrt{5 - n} = -5$

7) $\sqrt{4 - n} = \sqrt{7 - 2n}$

8) $\sqrt{2m - 1} = \sqrt{m + 1}$

9) $\sqrt{5m} = \sqrt{4m + 1}$

10) $1 - \sqrt{3 - x} = \sqrt{2x + 3}$

11) Write a radical equation with extraneous solution(s).