

## Algebra 2 Assignments

**Do your HW on graph paper only!**

HW 1/22

**Quiz problem #1:** Graphing using a table: Use 5 points. The 3<sup>rd</sup> point must be the vertex. p. 320 #2

**Quiz problem #2:** Graphing translations: The parent function is  $y = x^2$ . Graph and describe the translated function based on the information given in the vertex form of the equation. p. 320 #6

**Quiz problem #3:** The transformation effect of  $a$ : The parent function is  $y = x^2 (a = 1)$ . Graph and describe the transformed function based on the information given in the vertex form of the equation. NOTE: in our HW/quizzes/tests I will require ONLY an analysis of vertical transformations (take  $a$  OUT of parentheses). Disregard p. 317 example 3b analysis. p. 320 #8

**Quiz problem #4:** Writing a quadratic function with given transformations: The parent function is  $y = x^2$ . Write a function that makes the given changes to the parent function. p. 320 #14

**Quiz problem #5:** p. 328 #6

- Determine whether the graph of a given quadratic function opens upward or downward.
- Write the equation of the axis of symmetry for the parabola.
- Calculate the  $y$ -value of the maximum or minimum using the  $x$ -value of the axis of symmetry. Write the location of the vertex as an ordered pair.
- Find the  $y$ -intercept.
- Graph the parabola.

**Quiz problem #6:** factor a quadratic expression p. 331 #4-6

**QUIZ on Friday, 1/30**

HW 1/26 p. 320 #4,20,10,30 p. 328 #16 p. 331 #7-9

HW 1/27 p. 320 #18,22,12,15 p. 328 #18 p. 331 #10-12

HW 1/28 p. 320 #17,24,26,29 p. 328 #20 p. 331 #13-15

HW 1/29 p. 320 #19,23,28,39-41 p. 328 #5 p. 331 #16-18

**Do your HW on graph paper only!**

HW 2/2

**Quiz problem #1:** Find the minimum or maximum value of a function. Remember! This is a request for the value of the dependent variable ( $y$ ). State the domain (the domain for this chapter's parabolas will always be all real numbers) and the range (the  $y$ -values up to the maximum, or the  $y$ -values starting at the minimum and above). State the domain and range using either set-builder or interval notation. p. 328 #8

**Quiz problem #2:** Find the zeros of a function by using a graph and table. p. 338 #2

**Quiz problem #3:** Find the zeros of a function by factoring a random trinomial. p. 338 #6

**Quiz problem #4:** Find the zeros of a function by factoring a perfect square trinomial. p. 338 #12

**Quiz problem #5:** Find the zeros of a function by factoring a difference of squares. p. 338 #14

**Quiz problem #6:** Write a quadratic function in standard form  $f(x) = ax^2 + bx + c$  for each given set of zeros. p. 338 #16

**Quiz problem #7:** Solve a quadratic equation in vertex form  $0 = a(x - h)^2 + k$  by solving for the squared expression, then taking the square root of both sides. p. 345 #2

**Quiz problem #8:** Find the zeros of a function by using the Quadratic Formula  $x_{1,2} = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$  p. 361 #2

**Review:** p. 328 #2,7

**QUIZ on Tuesday, 2/10**

HW 2/3 p. 328 #10 p. 338 #18,8,28,38,34 p. 345 #20 p. 361 #4 **Review:** p. 328 #4,15

HW 2/4 p. 328 #24 p. 338 #4,10,30,40,36 p. 345 #22 p. 361 #6 **Review:** p. 328 #12,17

HW 2/5 p. 328 #9 p. 338 #3,5,13,29,15 p. 346 #47 p. 361 #3 **Review:** p. 328 #3,19

**DO ALL HW ON GRAPH PAPER**

HW 2/9 Applying quadratic functions: What does changing  $a$  do in real life? p. 319 #5 The braking distance will be \_\_\_\_\_ with old, flat tires. (fill in the blank with more or less)

Finding maximum or minimum values: p. 328 #11

Using the roots/zeros of the function: p. 338 #11

Review: p. 320 #3,33 p. 328 #6,26 p. 338 #7,17,31 p. 361 #5

HW 2/10 Applying quadratic functions: What does changing  $a$  do in real life? p. 320 #16 The safe working load for a rope will be \_\_\_\_\_ with an old rope. (fill in the blank with more or less)

Finding maximum or minimum values: p. 328 #30

Using the roots/zeros of the function: p. 338 #27

Review: p. 320 #7,25 p. 328 #7,27 p. 338 #9,32 p. 361 #7

HW 2/11 Applying quadratic functions: What does changing  $k$  do in real life? p. 320 #31 The gas mileage for an SUV is \_\_\_\_\_ than for a compact car. (fill in the blank with more or less)

Finding maximum or minimum values: p. 329 #33a

Using the roots/zeros of the function: p. 339 #46a

Review: p. 320 #4,35 p. 328 #21,25 p. 338 #24,33,35 p. 361 #21

HW 2/12 Applying quadratic functions: What does changing  $a, h$ , and  $k$  do in real life? Answer: it sends you to Mars!  
p. 321 #45

Finding maximum or minimum values: p. 329 #41

Using the roots/zeros of the function: p. 339 #66a

Review: p. 320 #25,27 p. 328 #23,28 p. 338 #26,48 p. 361 #23

**Both 2/5 and 2/17 Grade Reports must be stapled together and signed!**

HW 2/17 p. 345 #8 p. 347 #66 p. 353 #2,3,8,9 Review: p. 320 #21 p. 328 #21 p. 338 #21 p. 345 #38b,c (use calculator)  
p. 361 #20,21,24

HW 2/18 p. 345 #12 p. 347 #68 p. 353 #4-10 Review: p. 320 #34 p. 328 #22,31 p. 339 #47 p. 361 #8

HW 2/19 p. 345 #26 p. 347 #70 p. 353 #12,14,15,18,19,22,23 Review: p. 320 #22 p. 328 #23 p. 346 #39 p. 361 #11,12

HW 2/23 Redo the problems of Quizzes 1/30 and 2/10

HW 2/24 Use graph paper!

**Comparing Linear and Quadratic by looking at graphs:**

p. 380 #43 Have you forgotten the steps for linear and quadratic regressions? p. 144 Helpful Hint tells you how to enter the data. p. 144 Example 2b tells the keystrokes for a line of regression. Do you want your diagnostic on? p. 376 Example 3 shows an example of estimating using quadratic regression. The bottom of p. 143 tells you the steps to display  $r$  and  $r^2$ . In addition to graphing on graph paper, be prepared to show the graph in your calculator. Turn a plot on, select and set up the first scatterplot option, and zoom 9.

**Geometry Review – Triangles**

p. 13 #66 Look up or ask the meaning of Isosceles, Equilateral and Right Triangles. Write down the definitions.

p. 20 Try This #1-7

HW 2/25

**Comparing Linear and Quadratic by looking at tables:**

p. 105 Check it out #1

p. 374 Check it out #1

**Geometry Review – Triangles, Perimeter, and Area**

p. 26 #71

p. 50 # 51-53

p. 321 #42a,c

p. 329 #34

**Solving Quadratic Equations:** factor and apply the zero product property p. 393 #25

complete the square and take the square root of both sides p. 393 #40

use the quadratic formula p. 394 #53

HW 2/26

**Comparing Linear and Quadratic by looking at tables:**

p. 377 #2-4

**Geometry Review – Triangles, Perimeter, and Area**

p. 95 #44

p. 31 #27,28

p. 339 #62

**Solving Quadratic Equations:** factor and apply the zero product property p. 393 #26

complete the square and take the square root of both sides p. 393 #41

use the quadratic formula p. 394 #54

HW 3/3

**Quadratic Inequalities:**

\*p. 366-369 Check it out #1b,2b,3b,4

**Comparing Linear and Quadratic by looking at tables:**

\*p. 377 #12-14

**Writing a quadratic Model:**

\*p. 376 Check it out #3

**Geometry Review – Triangles, Perimeter, and Area**

p. 95 #45

\*p. 339 #61

**Solving Quadratic Equations:** factor and apply the zero product property p. 393 #27

\*complete the square and take the square root of both sides p. 393 #42

\*use the quadratic formula p. 394 #55

HW 3/4 \*p. 370 #2,6,8,11 \*p. 377 #11 \*p. 379 #30,31 (don't write the quadratic function rule) \*p. 339 #63,66  
\*p. 393-4 #28,56 \*p. 345 #27 \*p. 347 #64c

HW 3/5 \*p. 370 #3,7,9,27 \*p. 378 #19 \*p. 379 #33 (don't write the quadratic function rule) \*p. 349 #3  
\*p. 393-4 #29,57 \*p. 345 #31 \*p. 347 #64d

\*means Friday 3/16 quiz problem

The quiz will also include finding max/min and zero with calculator!

HW 3/9 p. 370 #4,5,10,34a p. 379 #34,38a p. 393 #30 p. 345 #28,60a (give 4 answers!) p. 95 #48 (redo problem from 1<sup>st</sup> qtr.)

HW 3/10 p. 370 #12,18,24,53a,58a p. 378-9 #28a,35 p. 393 #31 p. 345 #29

HW 3/11 p. 370 #13,19,25,53b,58b p. 393 #32 p. 345 #30

HW 3/12 Quiz 3/6 and HW Corrections