

Name: _____
Date: _____
Class: _____

Algebra
Review
Graded Homework 27

Show all of your work for every problem. The numbers in the brackets are the points that each problem is worth. Multiple Choice Problems are worth 3.
NO WORK = ZERO CREDIT

1) [3] Solve: $|x + 1| - 2 = x^2 - 6x + 13$

2) [3] Graph: $2\sqrt[3]{x - 2} + 1$

3) [3] Factor completely: $x^4 - 81$

4) [4] Place both in vertex form and state the transformation that would move $f(x)$ to $g(x)$:
 $f(x) = 3x^2 - 36x + 43$ and $g(x) = x^2 - 4x + 6$

5) [3] Create a box plot for the following data (which represents the number of pets in a household):

0, 1, 5, 2, 0, 0, 5, 6, 2, 3, 4, 4, 4, 3, 2, 1, 1, 1, 0, 0, 0, 1, 5, 4, 8, 10, 1, 4, 2, 0, 0, 0, 0, 1, 0

6) [2] What percent rank would 4 have in the data used in #5?

7) [4] Solve: $-x^2 - 14x + 2 = -3x^2 - 3x + 23$

8) [3] Find $f\left(-\frac{2}{5}\right)$ when $f(x) = 9x^3 - 8x^2 + 14x - 72$

9) [3] Which of the following is always true for $f(x) = 2x - 6$?

a) $f(x) > 0$

b) $f(x) < 0$

c) If $x < 0$ then $f(x) < 0$

d) If $x > 0$ then $f(x) > 0$