

Name _____

ESSAY. Write your answer in the space provided or on a separate sheet of paper.

Solve the equation by completing the square.

1) $x^2 + 4x + 8 = 0$

2) $3x^2 - 1 = -6x$

Solve the problem.

- 3) A lot is in the shape of a right triangle. The shorter leg measures 180 m. The hypotenuse is 60 m longer than the length of the longer leg. How long is the longer leg?

SHORT ANSWER. Write the word or phrase that best completes each statement or answers the question.

Solve using the quadratic formula.

4) $x^2 - 6x + 13 = 0$

4) _____

Solve the equation.

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

5) _____

Solve.

$$6) x^{2/3} + 3x^{1/3} - 4 = 0$$

6) _____

$$7) x^4 - 14x^2 + 45 = 0$$

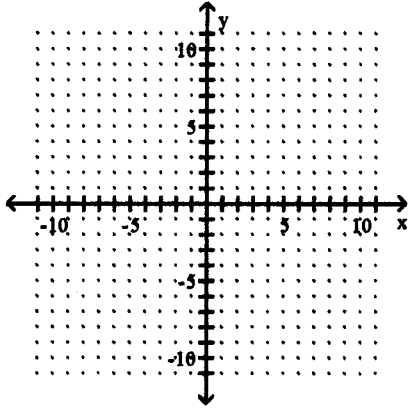
7) _____

Graph the equation.

For questions 8 and 9, you must write the vertex, y-intercepts, and x-intercepts if any, before graphing.

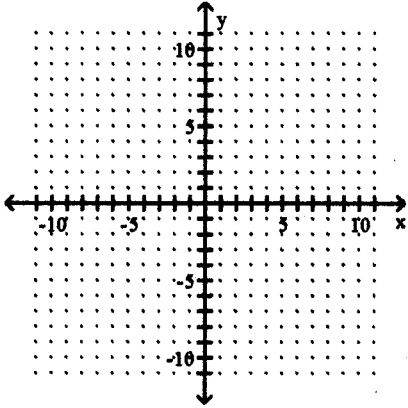
8) $f(x) = x^2 + 8x + 16$

8) _____



9) $g(x) = -x^2 + 2x + 2$

9) _____



Solve the inequality. Write the answer using interval notation and graph them.

10) $\frac{4y+5}{y-2} \leq 0$

10) _____