

M123-Intermediate Algebra
Review for sections 11.1 - 11.3, & 11.6

Note: This review sheet was created to review the concepts presented in your text. Each instructor may have other problems you should review to prepare for quizzes and exams in your section of the course.

1. Solve each of these quadratic equations using the given method.
(Section 11.1 & 11.2)

a) Principle of Square Roots
 $(x - 2)^2 - 3 = 0$

b) Principle of Square Roots
 $x^2 - 10x + 25 = 64$

c) Completing the Square
 $t^2 + 6t + 7 = 0$

d) Completing the Square
 $5x^2 + 4x - 3 = 0$

e) Quadratic Formula
 $3x^2 + 8x = 1$

f) Quadratic Formula
 $x^2 + 4 = 6x$

g) Factoring
 $x^2 + 5 = 6x$

2. Let $f(x) = \frac{7}{x} + \frac{7}{x+4}$. Find x such that $f(x) = 1$. (Section 11.2)

3. For each equation, determine what type of numbers the solutions are and how many solutions exist. (Section 11.3)

a) $x^2 - 7x + 5 = 0$

b) $4x^2 - 20x + 25 = 0$

c) $10x^2 - x - 2 = 0$

4. Write a quadratic equation having the given numbers as solutions. (Section 11.3)

a) $-9, 5$

b) -7 , only solution

c) $-\sqrt{5}, \sqrt{5}$

5. For each of the following, graph the function and find the vertex, the axis of symmetry, and the maximum or minimum value. (Section 11.6)

a) $f(x) = (x + 4)^2 - 3$

b) $f(x) = -(x - 5)^2 + 1$