

Algebra 0507
Chapter 9b
Review for Test

Name Key

Use the graphing calculator to find the solutions.

1. $6x^2 + 6x - 36 = 0$ $x = -3$ $x = 2$	2. $x^2 - 21x + 110 = 0$ $x = 10$ $x = 11$
3. $x^3 + x^2 - 56x = 0$ $x(x^2 + x - 56) = 0$ $x = 0$ $x = -8$ $x = 7$	4. $x^3 - 64x = 0$ $x(x^2 - 64) = 0$ $\downarrow$ $x = 0$ $x = 8$ $x = -8$

Factor.

5. $a^5b - a$ $a(a^4b - 1)$	6. $\underline{18x^2 - 30x} - 3x + 5$ $6x(3x - 5) - 1(3x - 5)$ $(3x - 5)(6x - 1)$
7. $x^2 - 25$ $(x + 5)(x - 5)$	8. $c^2 - 12c + 35$ $(c - 7)(c - 5)$

Solve by factoring. Remember to ASK yourself the questions.

9. $x^2 = x$

$$x^2 - x = 0$$

$$x(x-1) = 0$$

$$x = 0 \quad x - 1 = 0$$

$$x = 1$$

10. $3y^2 + 12y = 0$

$$3y(y+4) = 0$$

$$3y = 0 \quad y + 4 = 0$$

$$y = 0 \quad y = -4$$

11. $m^2 = 8 - 2m$

$$m^2 + 2m - 8 = 0$$

$$(m+4)(m-2) = 0$$

$$m+4 = 0 \quad m-2 = 0$$

$$m = -4 \quad m = 2$$

12. $n^2 = 9$

$$n^2 - 9 = 0$$

$$(n+3)(n-3) = 0$$

$$n+3 = 0 \quad n-3 = 0$$

$$n = -3 \quad n = 3$$

13. $9x^2 + 4 = 12x$

$$9x^2 - 12x + 4 = 0$$

$$9x^2 - 6x - 6x + 4 = 0$$

$$3x(3x-2) - 2(3x-2) = 0$$

$$(3x-2)(3x-2) = 0$$

$$x = 2/3$$

14. $3y^2 = 2 - 5y$

$$3y^2 + 5y - 2 = 0$$

$$3y^2 + 6y - y - 2 = 0$$

$$3y(y+2) - 1(y+2) = 0$$

$$(y+2)(3y-1) = 0$$

$$y = -2 \quad y = 1/3$$

15. $n^2 + 18n + 80 = 120$

$$n^2 + 18n + 80 - 120 = 0$$

$$n^2 + 18n - 40 = 0$$

$$(n-2)(n+20) = 0$$

$$n = 2 \quad n = -20$$

16. $3x^2 - x = 0$

$$x(3x-1) = 0$$

$$x = 0 \quad 3x - 1 = 0$$

$$3x = 1$$

$$x = \frac{1}{3}$$