

# Chapter 9 Practice Test

Name \_\_\_\_\_

Complete each of the following problems, showing all work and filling in your answers in the blanks to the right:

<p>1. Find the sum or difference:  <math>(13x^2 - 12x - 5) - (-4x^2 + 11x - 10)</math>  <math>13x^2 - 12x - 5 + 4x^2 - 11x + 10</math>  <math>17x^2 - 23x + 5</math></p>	<p>2. Simplify:  <math>(9x^2 + 3x - 5)(-4x)</math>  <math>-36x^3 - 12x^2 + 20x</math></p>	<p>1. <u><math>17x^2 - 23x + 5</math></u>                  2. <u><math>-36x^3 - 12x^2 + 20x</math></u></p>
<p>3. Simplify:  <math>(3x - 4)(9x + 5)</math>  <math>27x^2 + 15x - 36x - 20</math>  <math>27x^2 - 21x - 20</math></p>	<p>4. Simplify:  <math>(5x + 2)^2</math>  <math>25x^2 + 20x + 4</math></p>	<p>3. <u><math>27x^2 - 21x - 20</math></u>                  4. <u><math>25x^2 + 20x + 4</math></u></p>

Completely Factor the expression:

<p>5. <math>x^2 - 2x - 63</math></p>	<p>6. <math>3x^2 + 5x - 2</math></p>	<p>5. <u><math>(x - 9)(x + 7)</math></u>                  6. <u><math>(3x - 1)(x + 2)</math></u></p>
<p>7. <math>12x^2y^3 + 75x^4y</math></p>	<p>8. <math>x^2 - 8x + 12</math></p>	<p>7. <u><math>3x^2y(4y^2 + 25x^2)</math></u>                  8. <u><math>(x - 6)(x - 2)</math></u></p>

9.  $6x^3 - 15x^2 - 9x$

$$3x(2x^2 - 5x - 3)$$

$$3x(2x + 1)(x - 3)$$

10.  $4x^2 - 25$

9.  $3x(2x+1)(x-3)$

10.  $(2x+5)(2x-5)$

Solve each of the following for the given variable:

11.  $(4x+12)(2x-2)(3x-9) = 0$

$$x = -\frac{12}{4} \quad x = \frac{2}{2} \quad x = \frac{9}{3}$$

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

12.  $x^2 + 12x = -36$

$$x^2 + 12x + 36 = 0$$

$$(x+6)(x+6) = 0$$

$$x = -6$$

11.  $x = -3, x = 1, x = 3$

12.  $x = -6$

13.  $6x^2 - 4x - 2 = 0$

$$2(3x^2 - 2x - 1) = 0$$

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

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

13.  $x = -\frac{1}{3}, x = 1$