

Name: _____

Algebra 1 Plus Final Exam REVIEW 2016 – Content covered after the Midyear

Add or subtract the polynomials.

1) $(3x^4 + 2x^2 - 6x) + (7x^2 - 3x - 5x^4)$

2) $(x^3 + 2x + 6) - (6x^2 + 7 - 2x)$

3) $(3x^2 + 5x^3 + 5) - (x^2 - 5x^3 + 6)$

4) $(5x^4 + 3x^3 - 2) + (5x^4 + 8x^2 + 4)$

5) $(2x + 3x^3 - 8) + (x^3 - 2x - 8)$

6) $(6 + 5x^3 + 7x^4) + (4x^3 - 2x^4 - 1)$

Distribute and simplify by combining like terms.

7) $(6x + 7)(x - 1)$

8) $(2x + 2)(2x + 1)$

9) $(7x - 3)(3x - 3)$

10) $2(3x - 5)$

$$11) 2x(3x^2 + 8x - 2)$$

$$12) 5(3x^2 + x - 6)$$

Find the GCF.

$$13) 14x^7y^3 \quad 28x^2y$$

$$14) 4x^8y^5 \quad 24x^4y^3$$

$$15) 10xy \quad 40x^3y^4$$

$$16) 15x^7y^4 \quad 35x^8y^2$$

Factor each. (Hint: look for a GCF first)

$$17) 20x^5 + 15x^2 - 20x$$

$$18) 2x^2 - 4x - 2$$

$$19) x^2 - 5x - 50$$

$$20) 4x^2 - 44x + 96$$

$$21) x^2 - 2x - 80$$

$$22) 4x^7 + 5x^2$$

Add, subtract, multiply or divide the rational expressions.

$$23) \frac{x^2 - 2x - 15}{2x + 6} \cdot \frac{3}{x - 5}$$

$$24) \frac{5x^3 - 10x^2}{5x + 15} \div \frac{1}{x + 3}$$

$$25) \frac{5x}{x + 6} - \frac{3x}{5x + 3}$$

$$26) \frac{2}{3x + 9} - \frac{2}{x + 6}$$

Simplify.

27) $\sqrt{125}$

28) $6\sqrt{45}$

29) $3\sqrt{32}$

30) $\sqrt{3} \cdot \sqrt{3}$

Solve each system of equations using substitution.

31) $4x - 3y = 11$
 $y = 5x - 22$

32) $6x + 7y = 13$
 $x + 8y = 9$

Solve each system of equations using elimination.

33) $4x + 6y = -18$
 $-4x - 5y = 15$

34) $2x + 3y = -1$
 $2x + 5y = 1$

35) $3x + 6y = 3$
 $x + 3y = 4$

Solve the system of equations by graphing.

36) $y = -\frac{1}{4}x + 3$
 $y = x - 2$

