

ALG.2/TRIG—HW SHEET

HW#1: Simplify every expression.

1. $(5a^2b^3)(4ab^5)$

2. $-4x^5y^4(-9x^4y)$

3. $(y^6)^4$

4. $(4x)^3$

5. $(x^2y^3)^7$

6. $(-2x^3y^4)^3$

7. $4a^2 + 6b^3 + 2a^2 - b^3$

8. $x^2 - 3y^2 + 5x^2 - y^2$

9. $(x^{3a})(x^{2a})$

10. $(x^{4a})^3$

Evaluate every expression given that $a=4, b=-1, x=2, y=-5$

11. $(xy)^3$

12. xy^3

13. $3a^2 - 4b^3$

14. $(-2xy)^3$

HW#2: Simplify every expression (in #1-14).

1. $(-6b^2 - b + 2) + (-3b^2 - 8)$

2. $(3x - 2x^2 + 4) + (2x^2 - 8x + 7)$

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

4. $(-3y^2 + 4) + (y^2 + 6y - 3)$

5. $(8xy - y^2 + 9x^2) - (x^2 - 4y^2)$

6. $(n^2 + 3n) + (-4n + 6)$

7. $-5(4x + 3 - 4y^2)$

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

9. $(3x-4y)(3x+4y)$

10. $(x-3)^2$

*11. $(x+5)^3$

12. $2x(5x+2)(x+1)$

13. $(2x+4)(4x^2 + 2x - 3)$

14. $(x + y)^2$

15. Solve for n: $3(2n+4) + 5(3-2n) = 7 - 2n$

16. Subtract $x^2 - 3x + 4$ from $4x + 8$.

Note: I will not accept homework handed in on this sheet! Please copy and solve the problems on your own paper



HW#3: Simplify.

1. $\frac{28a^2bc}{14abc^3}$

2. $\frac{12xy^2z^3}{16xy^4z^2}$

3. $\frac{8x^2 - 12x + 4}{4}$

4. $\frac{28y^3 - 21y^4}{7y^3}$

5. $\frac{6a^2b - 9ab^2 + 3ab}{3ab}$

6. $\frac{4x^2 + 6x}{2x^3}$

7. $\frac{12x^3y + 20x^2y^2}{8xy^3}$

8. $\frac{14ac^2 + 7bc}{7abc}$

*9. $\frac{x^3 + 7x^2 + 14x + 8}{x + 2}$

HW#4: Factor the following:

1. $x^2 + 8x$

2. $6r^3s - 9r^2s^3$

3. $x^2 - 5x - 6$

4. $x^2 - 9x + 20$

5. $x^2 + 15x - 54$

6. $x^2 + 10x + 24$

7. $3x^2 + 10x + 7$

8. $2x^2 - 5x - 12$

Write as a trinomial

9. $(2x-5)(x+3)$

10. $(3x-4)^2$

Multiply:

11. $(x-2)(x^2 - 6x + 5)$

Simplify:

12. $\frac{21ab^3c^2 - 12a^2b^2}{6a^2b}$

13. $\frac{2x^3 + 3x^2 - 23x - 12}{2x + 1}$

HW#5: For what value or values of x is the fraction undefined?

1. $\frac{2}{x}$

2. $\frac{x-3}{x+4}$

3. $\frac{x-5}{x^2-36}$

4. $\frac{x+1}{x^2-12x+36}$

Reduce the fractions:

5. $\frac{36r^2st}{24rt^2}$

6. $\frac{x^2 - 11x + 24}{4x - 12}$

7. $\frac{x-y}{y-x}$

8. $\frac{x^2 + 5x - 6}{2 - 2x}$

9. $\frac{x^2 - 16}{12 - x - x^2}$

10. $\frac{2x^2 - 9x + 7}{1 - x^2}$

Factor Completely:

11. $2x^4 - 14x^2 - 36$

*12. $x^4 - 16$

Note: * = optional problem (challenging)