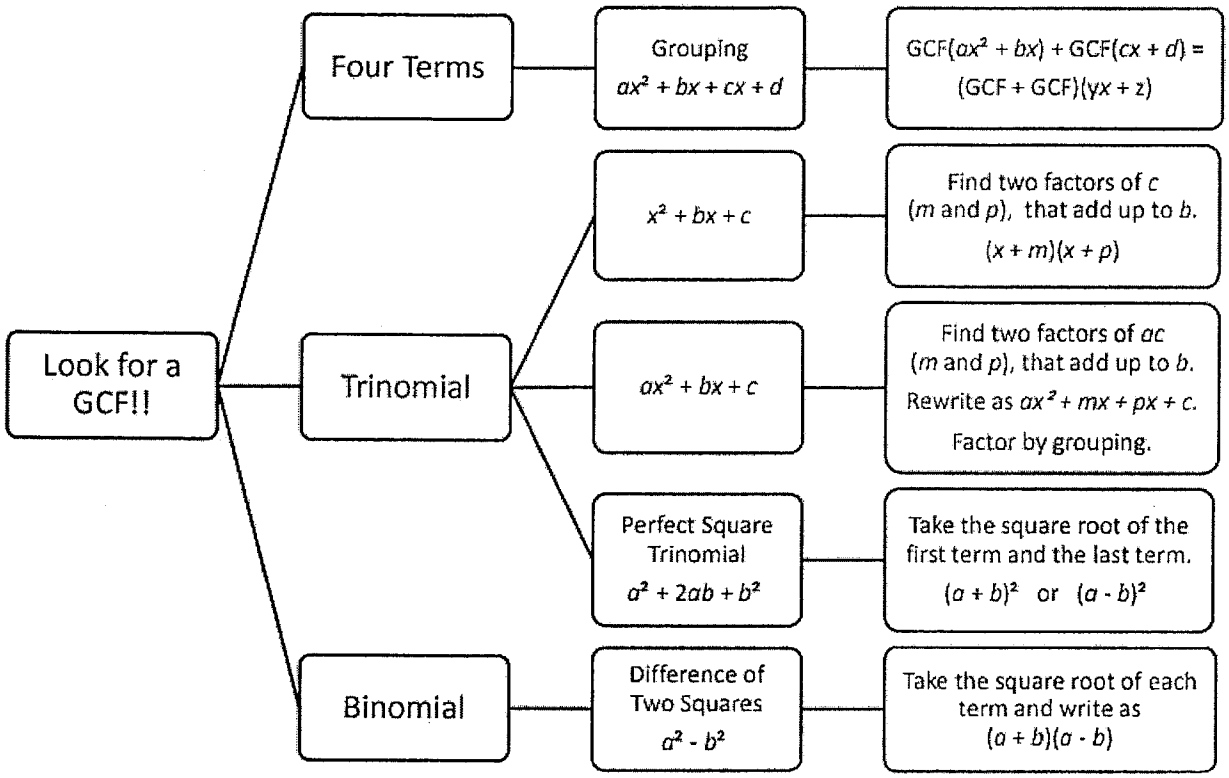
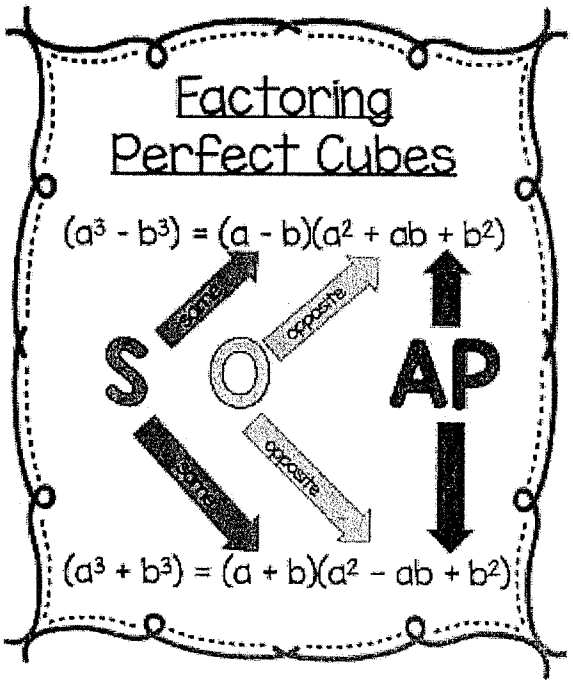
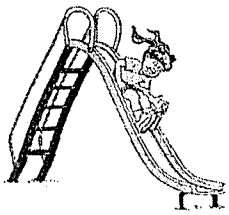
Precalculus Unit 2 Notes—Factoring and Review





SLIDE and DIVIDE

1) slide
2) factor
3) divide
4) bottoms up!!!



Factor completely:

1) $x^6 - 16x^2$

$x^2(x^4-16)$

$x^2(x^2-4)(x^2+4)$

$x^2(x-2)(x+2)(x^2+4)$

2) $-7y^4 - 56y$

$-7y(y^3+8)$

$-7y(y+2)(y^2-2y+4)$

3) $3x^2 + 7x + 2$

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

x^2+7x+6

$(x+\frac{6}{3})(x+\frac{1}{3})$

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

4) $3x^3 + 15x^2 - 12x - 60$

$3(x^3+5x^2-4x-20)$

$3[x^2(x+5)-4(x+5)]$

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

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

5) $8x^3 - 27$

$(2x-3)(4x^2+6x+9)$

6) $8x^2y - 20xy - 12y$

$4y(2x^2-5x-3)$

$4y(2x+1)(x-3)$

7) $6x^2 + 11x - 10$

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

$x^2+11x-60$

$(x+\frac{15}{6})(x-\frac{4}{6})$

$(x+\frac{5}{2})(x-\frac{2}{3}) = (2x+5)(3x-2)$

8) $-36x^3y + 15x^2y + 6xy$

$-3xy(12x^2-5x-2)$

$-3xy(4x+1)(3x-2)$

9) $-2x^3 + 2x$

$-2x(x^2-1)$

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

10) $60x^3 + 40x^2 - 135x - 90$

$5(12x^3+8x^2-27x-18)$

$5[4x^2(3x+2)-9(3x+2)]$

$5(3x+2)(4x^2-9)$

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

11) $x^4 - 29x^2 + 100$

$(x^2-25)(x^2-4)$

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

12) $54x^3 - 128$

$2(27x^3-64)$

$2(3x-4)(9x^2+12x+16)$