Warmup

1, 2, 4, 8, 16

3 − 8 = −5

8 − 3 = 5

1.) $16x^2 - 81$

$(4x-9)(4x+9)$

2.) $3x^2 - 147$

$3(x^2-49)$

$3(x-7)(x+7)$

3.) $9x^7 + 15x^3 - 18x^5$

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

4.) $2x^2 + 5x - 12$

$x^2+5x-24$

$(x+\frac{8}{2})(x-\frac{3}{2})$

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

1. 24
2. 12
3. 8
4. 6

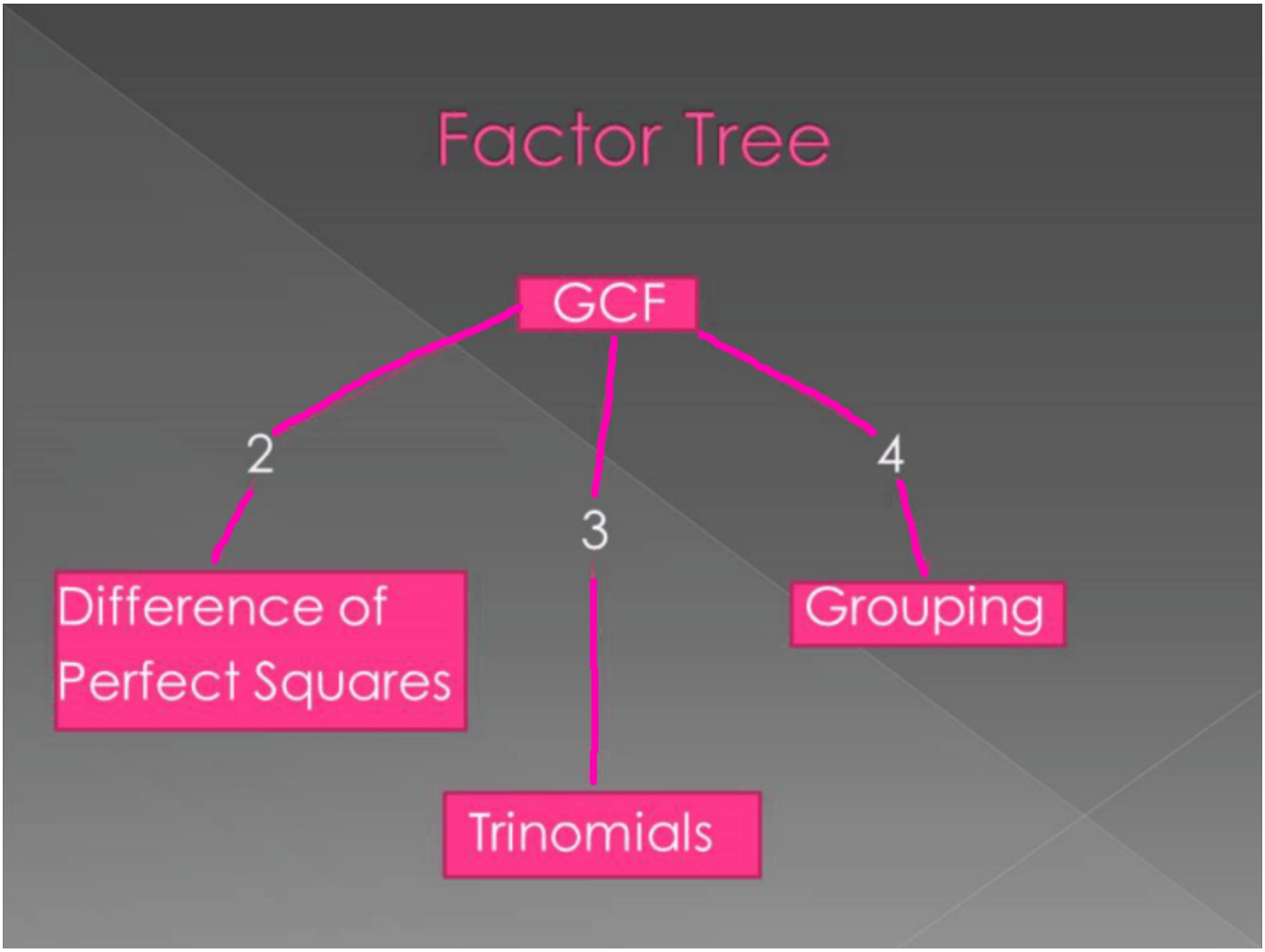
Factoring by Grouping

Section 10.8

Grouping

- When there are 4 terms, you factor by grouping

- Steps
  - 1.) Group the first 2 terms and the last 2 terms
  - 2.) Find the GCF of both sets of parenthesis
    3.) Rewrite the factors in new parenthesis


Factor Tree
GCF
2
3
4
Difference of Perfect Squares
Trinomials
Grouping

Examples

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

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

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

2.) $(x^3 + 4x^2) + (6x + 24)$

$x^2(x+4) + 6(x+4)$

$(x+4)(x^2+6)$

Examples (cont.)

3.) $(x^2 + 2x) + (3x + 6)$

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

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

4.) $(x^3 - 2x^2) + (9x + 18)$

$(x^3 - 2x^2) + (-9x + 18)$

$x^2(x-2) - 9(x-2)$

$(x-2)(x^2-9)$

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

Class work

wkst C # 19-24

- Pg 629 # 21-28
- Quiz 10.8 tomorrow

Homework

- Pg 629# 29-35
- Pg 632 # 13-19