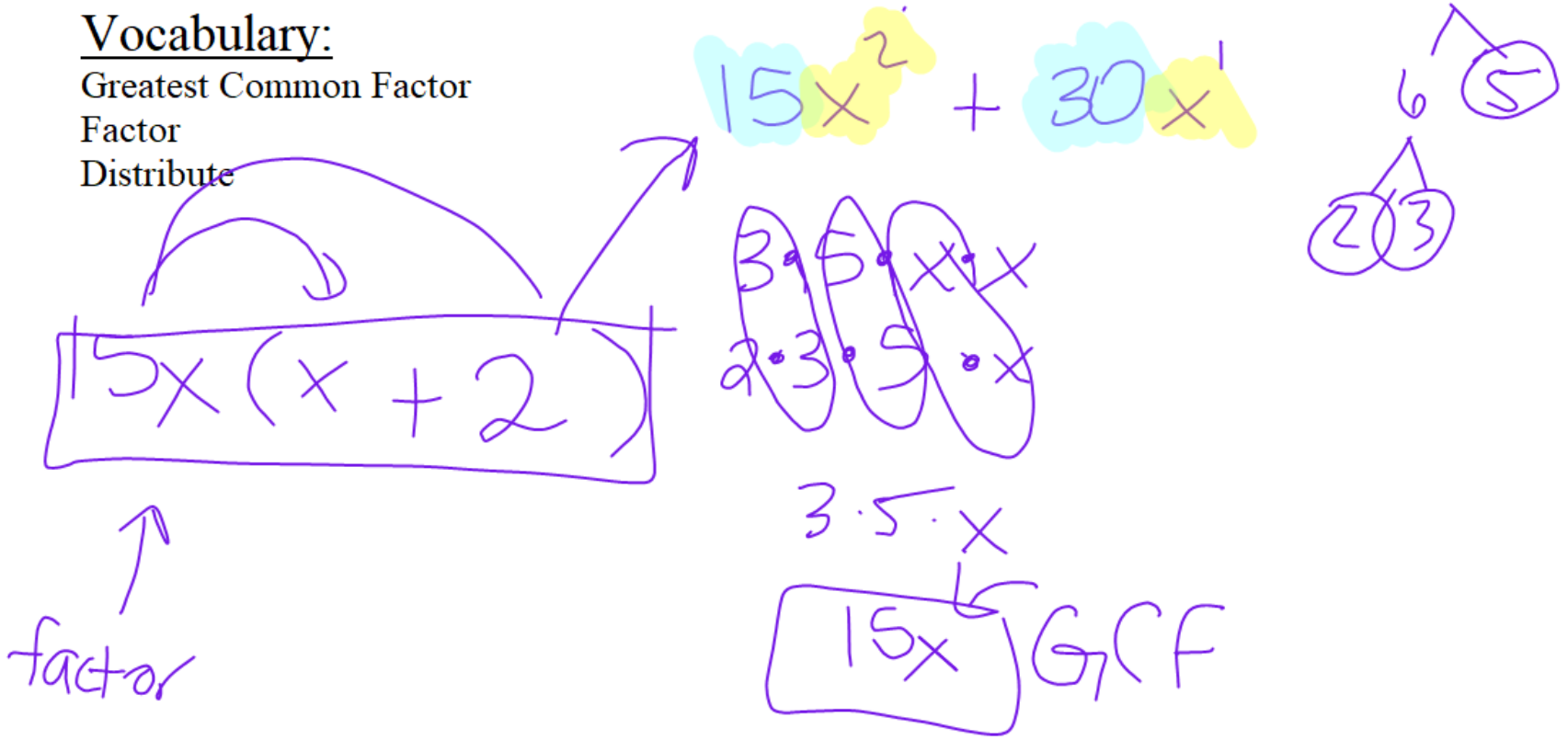
9.2 - Multiplying and Factoring GCF

Vocabulary:

Greatest Common Factor
Factor
Distribute



Find the GCF of the following:

$12 \quad + \quad 36 \quad = 12$

$x^4 \quad + \quad x^2 \quad = x^2$

$12x^4 \quad + \quad 36x^2 \quad = 12x^2$

$g^{2+}\cdot g^{3}$

1 EXAMPLE Simplify $-2g^2(3g^3 + 6g^1 - 5)$.

$g^{2+}\cdot g^{1} = g^{3}$

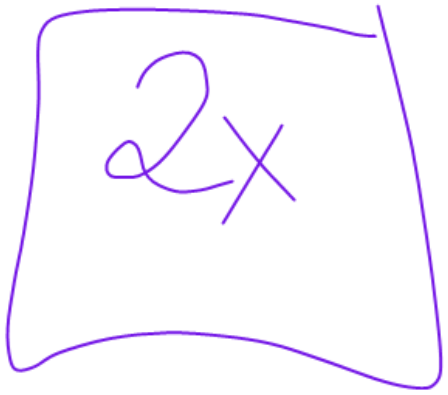
$-6g^5 - 12g^3 + 10g^2$

Simplify:

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

$$3x^3 - 12x^2 + 6x$$

2 EXAMPLE Find the GCF of $2x^4 + 10x^2 - 6x$.



Find the GCF :

$-12x^3 + 9x^2$

$3x^2$

3 EXAMPLE Factor $4x^3 - 8x^2 + 12x$.

① GCF $4x(x^2 - 2x + 3)$

Factor:

$$-3x^2 + 6x - 36$$

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

Homework: pg. 501

6) $-p^3 + 11p^2$

8) $36y^5 + 32y^4 - 44y^2$

10) $-42q^7 + 14q^3 + 49q^2$

12) $-40x^9 - 12x^8 + 28x^6$

14) $2a$

16) x

18) $3x$

20) $v(v+4)$

22) $2t^2(1-5t^2)$

$2t^2 - 10t^4$

24) $6p^3(p^3+4p^2+3)$

25) Karla b|c $-2x^{-3}$

$= 6x$

26) NHA

30) $y^2 + 3y - 5y^3 + 10y$

$-4y^2 + 13y$