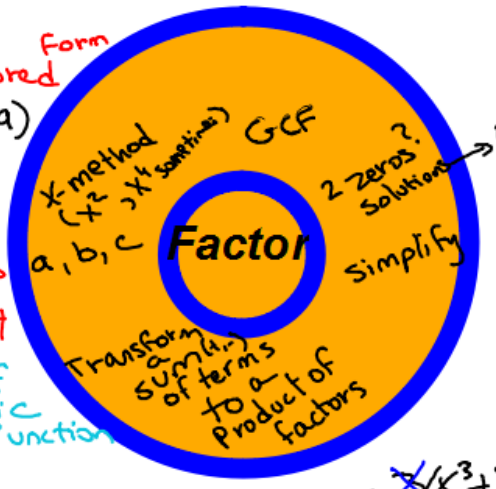


Factored Form

$x^2 + 9x = x(x+9)$

GCF

- equivalent expressions
- different format

Standard form of a Quadratic function

$ax^2 + bx + c$

2. $x^2 + 9x = 0$

$x^4 + 3x^3 - 7x = 0$

$x^2 + 12 = 0$

$x^4 + 3x^3 - 7x = 0$

$x(x^3 + 3x^2 - 7) = 0$

x GCF

$x^2 = 12$

$x = \pm\sqrt{12}$

$x = -12$

→ imaginary numbers

( ) ( )

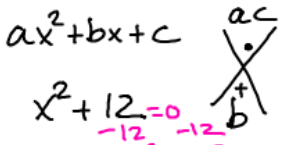
$\sqrt{x^2} = \pm\sqrt{4}$

$x = \pm 2$

$x = 2$

$x = -2$

Standard form: ax^2+bx+c



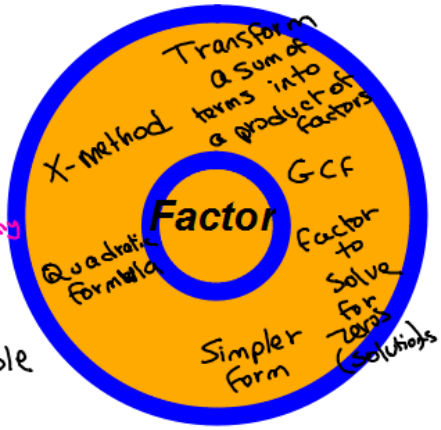
$x^2+12=0$

$-12 \quad -12$

$x^2=-12$

imaginary

Not possible



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

$x^2-4=0$

$+4 \quad +4$

$\sqrt{x^2}=\sqrt{4}$

$x=\pm 2$

$x^2+9x=0 \longrightarrow$

$x^4+3x^3-7x=0$

$x^2+12=0$

$x^2+9x = x(x+9)$

GCF — factored form

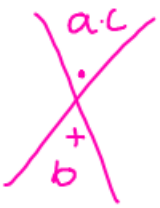
equivalent expressions

$x\cdot(x^3+3x^2-7) \longrightarrow$ calc.

Given Factor

Sometimes ∪ cannot factor

X



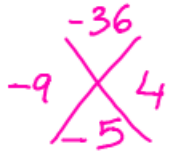
$$x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$$

( ).( ) =0

x= x=

3. $3x^2 - 5x - 12 = 0$ Quadratic

$a = 3 \quad b = -5 \quad c = -12$



$(x-9)(3x+4) = 0$

$\left(x - \frac{9}{3}\right)\left(x + \frac{4}{3}\right) = 0$

$x = \frac{9}{3} \qquad x = \frac{-4}{3}$

$x = 3 \qquad x = -\frac{4}{3}$