

Factoring

** Always look for a GCF first!**

GCF

- Take out highest factor each term has in common. If all terms have a variable, choose the lowest exponent.

$$\begin{aligned} & 3x^2 + 9 \\ & 3(x^2 + 9) \end{aligned}$$

$$\begin{aligned} & 4x^5 - 8x^3 - 12x \\ & 4x(x^4 - 2x^2 - 3) \end{aligned}$$

DOTS

$$(a^2 - b^2) = (a + b)(a - b)$$

$$\begin{aligned} & x^2 - 100 \\ & (x+10)(x-10) \end{aligned}$$

$$\begin{aligned} & 4x^2 - 25 \\ & (2x+5)(2x-5) \end{aligned}$$

$$\begin{aligned} & 3x^2 - 12 \\ & 3(x^2 - 4) \\ & 3(x+4)(x-4) \end{aligned}$$