

## Tips for Factoring!

- ① standard form
- ② GCF! (either monomial or binomial)
- ③ Factor:

2 terms

D.O.T.S!

- must have  
2 perfect  
squares &  
a difference!

3 terms

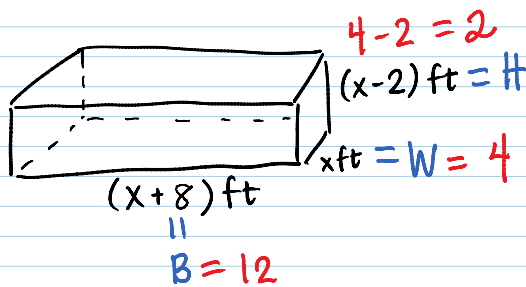
standard  
factoring!  
(ex:  $x^2 - x - 2$ )

4 terms

grouping!

## Quick Volume Example.

If the volume of the figure below is  $96\text{ft}^3$ , find the dimensions.



12ft by 4ft by 2ft

$$V = B \cdot W \cdot H$$

$$96 = (x+8)(x)(x-2)$$

$$0 = (x+8)(x)(x-2) - 96$$

$$0 = (x^2 + 8x)(x-2) - 96$$

$$0 = x^3 - 2x^2 + 8x^2 - 16x - 96$$

$$0 = (x^3 + 6x^2)(-16x - 96)$$

$$\begin{aligned} V &= B \cdot W \cdot H \\ &= 12 \cdot 4 \cdot 2 \\ &= 96 \text{ ft}^3 \checkmark \end{aligned}$$

$$0 = \underbrace{x^2(x+6)} - \underbrace{16(x+6)}$$

$$0 = (x+6)(\underbrace{x^2 - 16})$$

$$0 = (x+6)(x+4)(x-4)$$

$$0 = x+6 \quad 0 = x-4 \quad 0 = x+4$$

$$\cancel{x = -6}$$

$$\underline{x = 4}$$

$$\cancel{x = -4}$$