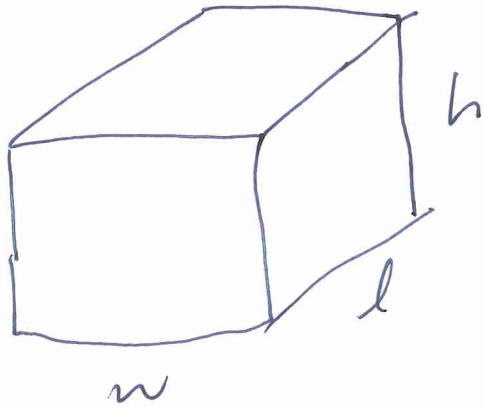


Volume and Variables

Volume



$$V = lwh \quad \frac{\text{units}}{\text{cubed}}$$

Variables

1. Remember to combine like terms!

Like terms

$$x, 5x, \frac{2}{3}x$$

$$x^4, 9x^4, .7x^4$$

Not Like terms

$$x^3, x^2, x^{1/2}$$

Rules about Exponents

Product ~~rule~~ property:

$$x^3 \cdot x^7 = x^{10}$$

Add the exponents!

Power Rule

$$(x^3)^7 = x^{21}$$

multiply the exponents!

Power of a product property

$$(3x)^4 = (3^4)(x^4) = 81x^4$$

$$(xy^2)^2 = (x^2)(y^2)^2 = x^2y^4$$

F O I L

$$(4y + 9)(3y - 2)$$

First : $(4y)(3y) = 12y^2$

Outside : $(4y)(-2) = -8y$

Inside : $(9)(3y) = 27y$

Last : $9(-2) = -18$

$$12y^2 - \underline{8y} + \underline{27y} - 18$$

Combine Like terms!

$$12y^2 + 19y - 18.$$