

POWER OF A PRODUCT (PINK & GREEN RANGER)

$$\left(\begin{array}{c} \text{Pink Ranger} \\ \cdot \\ \text{Green Ranger} \end{array} \right)^3 =$$

$$\begin{array}{c} 3 \\ \text{Pink Ranger} \\ \cdot \\ \text{Green Ranger} \\ 3 \end{array}$$

$$\begin{aligned} & (P \cdot G)^3 \\ & (P \cdot G)(P \cdot G)(P \cdot G) \\ & P^3 \cdot G^3 \end{aligned}$$

TO FIND THE POWER OF A PRODUCT, FIND THE POWER OF EACH FACTOR AND MULTIPLY

$$(ab)^3$$
$$a^3 \cdot b^3$$

$$(3x)^5$$
$$3^5 \cdot x^5$$
$$3 \cdot 3 \cdot 3 \cdot 3 \cdot 3 = 243$$
$$243x^5$$

$$(-5x)^2$$
$$(-5)^2 \cdot x^2$$
$$25x^2$$

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

$$(-2)^3 \cdot (x^4)^3$$

$$-2 \cdot 2 \cdot -2 = -8$$

$$4 \cdot 3 = 12$$

$$-8x^{12}$$

$$(x^4y^3)^{-2}$$

$$(x^4y^3)^{-2}$$

$$(x^4)^{-2} (y^3)^{-2}$$

$$x^{-8} y^{-6}$$

$$(3w \cdot 2w^2)^5$$

$$3 \cdot w \cdot 2 \cdot w^2$$

$$3 \cdot 2 \cdot w \cdot w^2$$

$$6 \cdot w^3$$

$$(6w^3)^5$$

$$6^5 w^{15}$$

$$7,776w^{15}$$

method #1

Method #2

$$(3w)^5 \cdot (2w^2)^5$$

$$3^5 w^5 \cdot 2^5 (w^2)^5$$

$$243w^5 \cdot 32w^{10}$$

$$243 \cdot 32 \cdot w^5 \cdot w^{10}$$

$$7,776w^{15}$$

Same answer

$$\left(\frac{1}{2} y^3\right)^3$$

$$\left(\frac{1}{2}\right)^3 \cdot \left(y^3\right)^3$$

$$\frac{1}{2} \cdot \frac{1}{2} \cdot \frac{1}{2} = \frac{1}{8}$$

$$\frac{1}{8} y^9$$