

Warm-Up:

Complete the multiplication, use division to check

1403 x 16

$$\begin{array}{r}
 \overset{2}{1}4\overset{1}{0}3 \\
 \times 16 \\
 \hline
 8418 \\
 +) 4030 \\
 \hline
 22448
 \end{array}$$

$$\begin{array}{r}
 \times 1403 \\
 \hline
 16 \overline{) 22448} \\
 \underline{- 16} \downarrow \\
 64 \downarrow \\
 \underline{- 64} \downarrow \\
 048 \\
 \underline{- 48} \\
 0
 \end{array}$$

$$\begin{array}{l}
 100 \div 10 \\
 1030 \div 100
 \end{array}$$

38)

$$\begin{array}{r}
 \times \times \times 58 \\
 225 \overline{) 13050} \\
 \underline{- 1125} \downarrow \\
 1800 \\
 \underline{- 1800} \\
 0
 \end{array}$$

$$\begin{array}{r}
 130 \quad 5 \\
 \underline{23} \\
 225 \\
 \times 5 \\
 \hline
 1125
 \end{array}$$

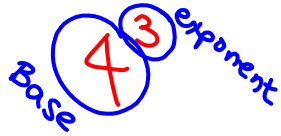
# 1.8 Exponents, Roots and PEMDAS

Repeated  
multiplication



order of  
operations

Exponent: Identify Base & Exponent then simplify



$$4 \times 4 \times 4 = 16 \times 4 = 64$$

25  $\underbrace{2 \times 2 \times 2 \times 2 \times 2}_{32}$

$$\begin{array}{r} 169 \\ 196 \\ 225 \end{array}$$

Square Root:  $\sqrt{\# \cdot \#} = \sqrt{\#^2} =$  square root

$$\sqrt{36} = \sqrt{6 \cdot 6} = 6$$

$$\sqrt{81} \rightarrow 9$$

PEMDAS:  
 $\downarrow$   $\leftarrow$   $\rightarrow$   $\leftarrow$   $\rightarrow$

$$\begin{aligned} a) & 4^2 \cdot 7^2 + (7+3) \cdot 2 \\ & 4^2 \cdot 7^2 + (10) \cdot 2 \\ & 16 \cdot 49 + (10) \cdot 2 \\ & 784 + 20 \\ & \boxed{804} \end{aligned}$$

$$\begin{aligned} b) & 2 \cdot \sqrt{64} - 5 \cdot 3 \\ & 2 \cdot 8 - 5 \cdot 3 \\ & 16 - 15 \\ & \textcircled{1} \end{aligned}$$