

## 2.1 Variables

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ie:  $x, y, p, q, r, \tau, \odot, \Delta$

A symbol representing something else.

Open Sentence: a statement containing a variable

Solution Set the set of replacements from the Domain that makes an open sentence true.   
 (one or more than one Ans.)

ex] find the Solution Set  
for  $x < 5$  if the Domain is  $W$

$W: \{0, 1, 2, 3, 4, \dots\}$

$\{0, 1, 2, 3, 4\}$

## Algebraic Expressions:

Contains variables +  
operations: +, -, ·, ÷

Evaluate:

$$n+6 \quad \text{if} \quad n=5$$
$$(5)+6 = \underline{\underline{11}}$$

Evaluate: when  $a=3$   
 $b=7$

$$\frac{a+b}{2} = \frac{(3)+(7)}{2} = \frac{10}{2} = \underline{\underline{5}}$$

\* Must Reduce ALL fractions

\* No Decimals

\* No Mix #'s  ~~$1\frac{1}{2}$~~   $\frac{3}{2}$   
 ~~$1.5$~~

# Numbers & Exponents

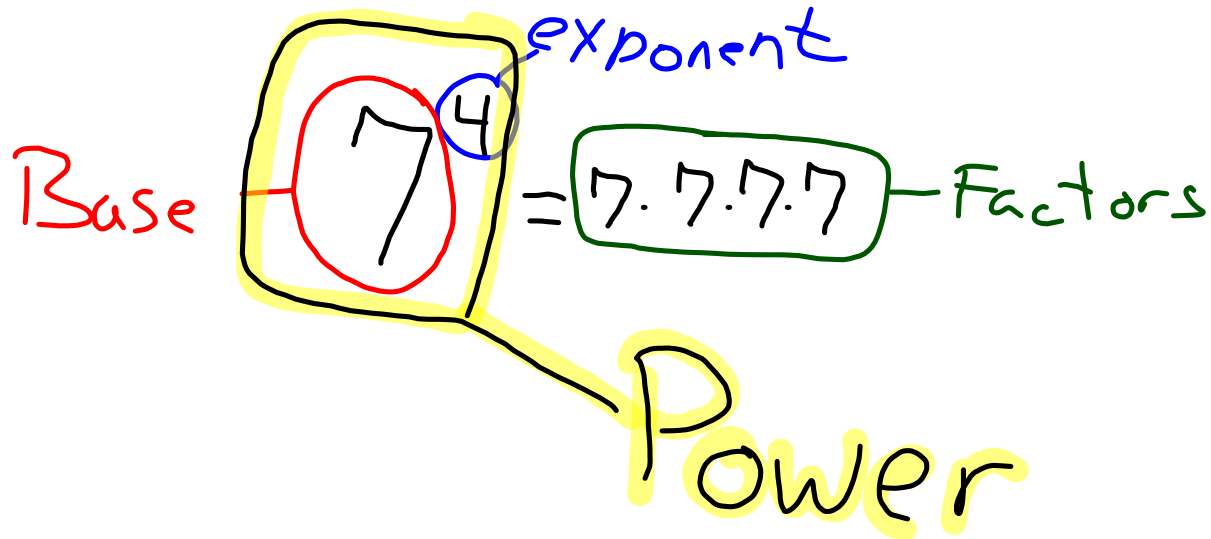
$$7 = 7 = 7^1$$

$$7 \cdot 7 = 49 = 7^2$$

$$7 \cdot 7 \cdot 7 = 343 = 7^3$$

$$7 \cdot 7 \cdot 7 \cdot 7 = 2401 = 7^4$$

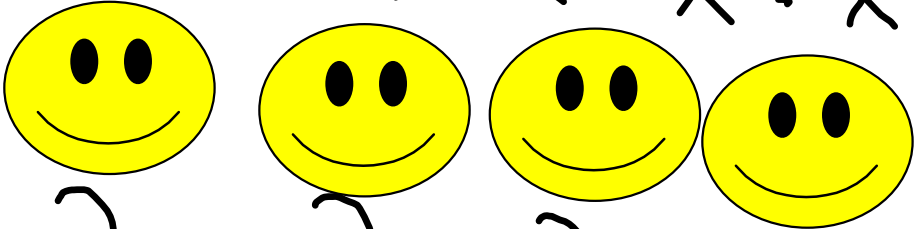
$$\begin{array}{r} 32 \\ 343 \\ \hline 2401 \end{array}$$



Write using exponents

ex 1)  $8 \cdot 8 \cdot 8 = \underline{\underline{8^3}} = \underline{\underline{512}}$

ex 2)  $x \cdot x \cdot x \cdot x \cdot x = \underline{\underline{x^5}}$



ex 3)  $2x \cdot 2x \cdot 2x \cdot 2x = (2x)^4$

Evaluate: when  $a = 7$

$$a \cdot b = (7) \cdot (9) \quad b = 9$$
$$= \underline{\underline{63}}$$

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Evaluate: when  $b = 3$

$$5b^4 =$$

$$5(3)^4 = 5 \cdot 81 = \underline{\underline{405}}$$

O.T.L.

① Pg 40: Exp. 1-11 (0)

② Pg 40: Exp: 13, 15, 16

③ Pg 40: Written: 1-45 (odd);

④ Written: 49, 51