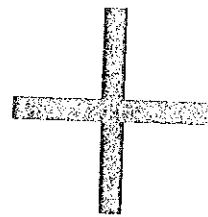




# The Number system

answer to  
an  
addition  
PROBLEM!

sum



answer to a  
SUBTRACTION  
PROBLEM!

difference



please  
excuse  
my dear  
aunt  
sally!

PEMDAS

parenthesis  
exponents  
multiplication  
division  
addition  
subtraction

$$1 + 2 = 2 + 1$$

commutative property

$$5 \times 4 = 4 \times 5$$

$$\{1 + 2\} + 3 = 1 + \{2 + 3\}$$

associative property

$$\{2 \times 2\} \times 3 = 2 \times \{2 \times 3\}$$

$$6 \{4 + 2\} = 6 \cdot 4 + 6 \cdot 2$$

distributive property

$$a \{b - c\} = ab - ac$$

$$6 + 0 = 6$$

$$e + 0 = e$$

identity property

$$3 \cdot 1 = 3$$

$$e \cdot 1 = e$$

answer to a  
multiplication  
problem!

product



answer to a  
DIVISION  
PROBLEM!

quotient



$$\frac{1}{5} \quad \frac{3}{5}$$

common  
denominator

Common  
denominator

12 is the common  
denominator of

$\frac{2}{3}$  and  $\frac{1}{4}$

**multiples of 3:**

**3, 6, 9, 12, ...**

*multiples*

**multiples of 12:**

**12, 24, 36, 48, ...**

$$\begin{array}{l} \textcircled{1} \times \textcircled{12} = 12 \\ \textcircled{2} \times \textcircled{6} = 12 \\ \textcircled{3} \times \textcircled{4} = 12 \end{array}$$

*factors*

$$\begin{array}{l} \textcircled{1} \times \textcircled{16} = 16 \\ \textcircled{2} \times \textcircled{8} = 16 \\ \textcircled{4} \times \textcircled{4} = 16 \end{array}$$

rational  
number

**$\pi$**

**6.621...**

irrational

number

**0.563...**

**$\sqrt{2}$**



$x^2$

square

$2^2$

$x^3$

cube

$5^3$

$$\sqrt{2} = 1.414\dots$$

square root

$$\sqrt{36} = 6$$

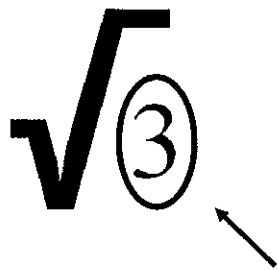
$$\sqrt[3]{\quad}$$

cube  
roots

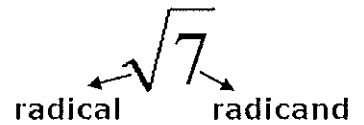
$$\sqrt[3]{8} = 2$$



radical



radicand



$$\sqrt[3]{8} = 2$$

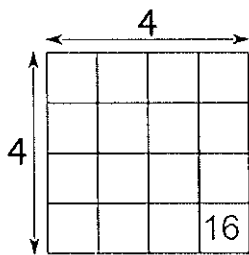
perfect  
cubes

$$1^3 = 1$$

$$2^3 = 8$$

$$3^3 = 27$$

$$4^3 = 64$$



perfect  
squares

$$1^2 = 1$$

$$2^2 = 4$$

$$3^2 = 9$$

$$4^2 = 16$$

$\frac{1}{2}$

4

0

real number

-5.1

6.789...

50

105

1

natural

number

26

524

2

50

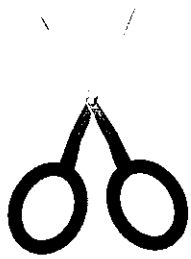
whole

26

1 105

number

0 524



truncate

12.65321

12.6

-1

4

integer

0

6

-8

-10

$0.\overline{1}$

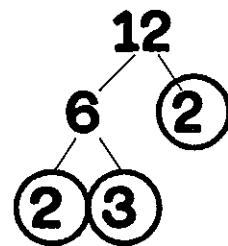
repeating  
decimal

$0.\overline{2353}$

terminating  
decimal

**factors  
that are  
prime!**

prime  
factor





$$\frac{6}{12} = \left( \frac{1}{2} \right)$$

simplest form

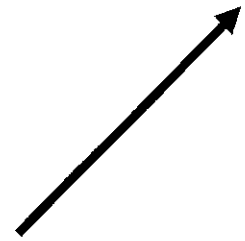
$$\frac{3}{9} = \left( \frac{1}{3} \right)$$

greater than **BIGGER!**



**RISING!**

ascending



**GOING DOWN!**

descending

