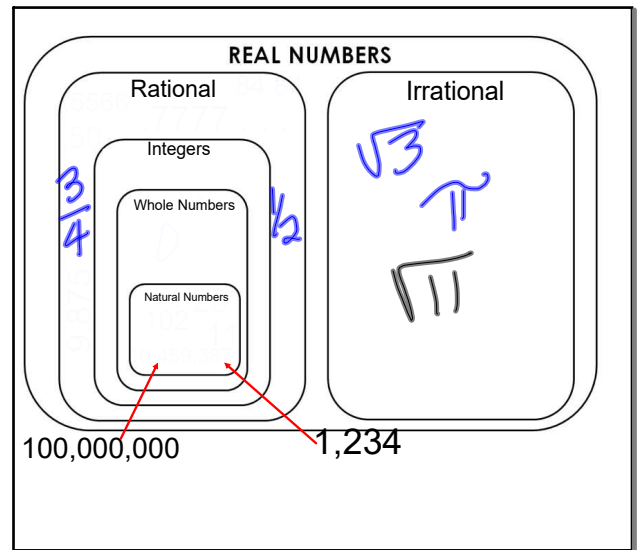


**Starter** **29 August 2018**

Identify each number as rational or irrational.

- 1) 1.3684  $Q$
- 2) 1.3684...  $I$  *does not end or repeat*
- 3)  $3/5$   $Q$
- 4) 1.7272...  $Q$  *repeats*



### Exponents and Order of Operations

- ⊙ An exponent tells how many times a number, the base, is used as a factor
- ⊙ A power has 2 parts, a base and an exponent
- ⊙  $2^4 = 2 * 2 * 2 * 2$

### Exponents and Order of Operations

- ⊙ Order of Operations
  - PEMDAS –
  - Parentheses (grouping symbols)
  - Exponents
  - Multiplication/Division from left to right
  - Addition/Subtraction in order from left to right

### Exponents and Order of Operations

◎ Simplify

1.  $25 - 8 * 2 + 3^2 =$

2.  $6 - 10 \div 5 =$

3.  $4 * 7 + 4 \div 2^2 =$

1.  $25 - 8 * 2 + 3^2 =$

PEMDAS

$$25 - 8 \cdot 2 + 9$$

$$25 - 16 + 9$$

$$9 + 9$$

$$18$$

2.  $6 - 10 \div 5 =$

$$6 - 2$$

$$4$$

3.  $4 * 7 + 4 \div 2^2 =$

$$4 \cdot 7 + 4 \div 4$$

$$4 \cdot 7 + 1$$

$$28 + 1$$

$$29$$

### Exponents and Order of Operations

• Simplify

4.  $15(13-7) \div (8-5)$

5.  $8 \div (9-7) + (13 \div 2)$

4.  $15(13-7) \div (8-5)$

$$15(6) \div (3)$$

$$90 \div (3)$$

$$\boxed{30}$$

$$\begin{array}{r} 15 \\ \times 6 \\ \hline 90 \end{array}$$

$$\begin{array}{r} 30 \\ 3 \overline{)90} \\ \underline{90} \\ 00 \end{array}$$

5.  $8 \div (9-7) + (13 \div 2)$

$$8 \div (2) + (6.5)$$

$$4 + (6.5)$$

$$\boxed{10.5}$$

$$2 \overline{)13.0}$$

$$\underline{12}$$

$$10$$

$$\underline{10}$$

$$0$$

$$4.0$$

$$+ 6.5$$

$$\underline{10.5}$$

Order of Operations  
Practice Work # 1

1.  $3 \cdot (2 \cdot 4^3) \div 4$

2.  $(4^3 + 2 - 1)$

3.  $(5 \cdot 3) \cdot 1 + 5$

4.  $1 - 5(7^2 - 2^3 - 6)$

5.  $2 - 5 + 4 \div 2(2 - 3)$

6.  $2 - [5 + 4 \div 2(2 - 3)]$