ALGEBRA

3th
SECONDARY

Práctica exploratoria

SACO OLIVEROS

ALGEBRA

FRACCIONES Y LEYES DE EXPONENTES.

SACO OLIVEROS

1 Efectúe en cada caso:

a) $2+\frac{1}{3}$ b) $\frac{5}{2}-\frac{1}{3}$ c) $\frac{1}{2}-\frac{1}{3}+\frac{5}{4}$

Resolución:

a) $2+\frac{1}{3}$

$=\frac{7}{3}$

b) $\frac{5}{2}-\frac{1}{3}$

$=\frac{15-2}{6}$

$=\frac{13}{6}$

c) $\frac{1}{2}-\frac{1}{3}+\frac{5}{4}$

$m.c.m.(2;3;4)=12$

$=\frac{6-4+15}{12}=\frac{17}{12}$

2 **Determine el valor de:**

$$C = (-2)^6 + (-3)^3 + (-1)^{2021} + (-1)^{20}$$

Resolución:

$$C = +64 + (-27) + (-1) + (+1)$$

$$C = 64 - 27 - 1 + 1$$

$$C = 37$$

$$\therefore C = 37$$

3

Determine el valor de:

Potenciación Potenciación Potenciación

$$L = 2^{2^3} + 3^{(-2)^2} + (-2)^{2^2}$$

RECUERDA

$(-)^{par} = +$

Resolución:

$$L = 2^{8} + 3^{4} + (-2)^{4}$$

$$L = 256 + 81 + 16$$

$$L = 353$$

$$\therefore L = 353$$

4 **Halle el valor de x en:**

$$\frac{9^{2x+3}}{3^{x+7}} = 3^x$$

Resolución:

$$\frac{(3^2)^{2x+3}}{3^{x+7}} = 3^x$$

$$3^{4x+6} = 3^{x} \cdot 3^{x+7}$$

RECUERDA

Multiplicación de bases iguales

$$x^n \cdot x^m = x^{n+m}$$

$$3^{4x+6} = 3^{2x+7}$$

$$4x + 6 = 2x + 7$$

$$2x = 1$$

$$\therefore x = 1/2$$

5 Reduce

Potenciación Potenciación

$$L = 3^{(-2)^{2^2}} \cdot 3^{-2^{2^2}}$$

Resolución:

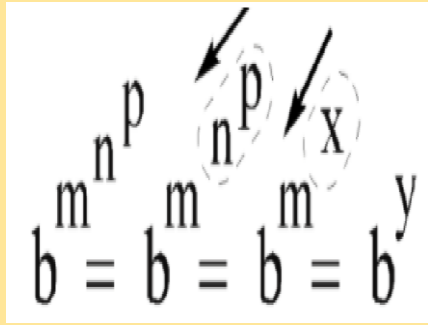
$$L = 3^{(-2)^4} \cdot 3^{-2^4}$$

$$L = 3^{+16} \cdot 3^{-16}$$

$$L = 3^{0} = 1$$

$$\therefore L = 1$$

RECUERDA



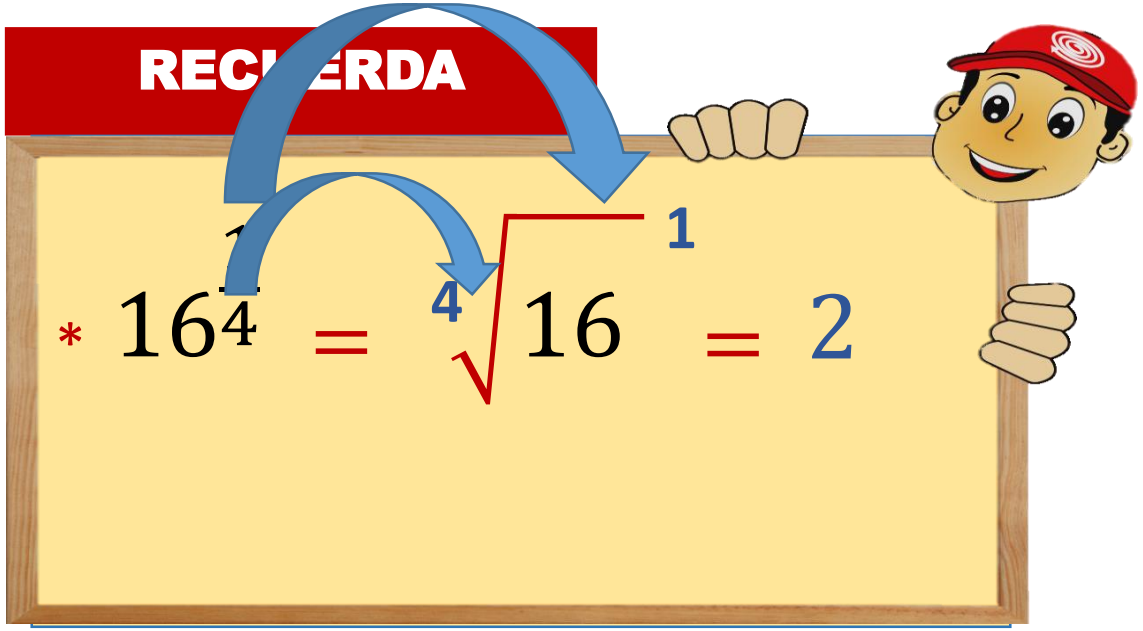
Se empieza de arriba hacia abajo, haciendo POTENCIACIÓN de 2 en 2.

6 Determine el valor de $9^{16^{\frac{1}{4}}}$

Resolución:

Piden: $9^{16^{\frac{1}{4}}} = 9^{2}$

$= 81$



$\therefore$ **81**

ALGEBRA

ECUACIONES

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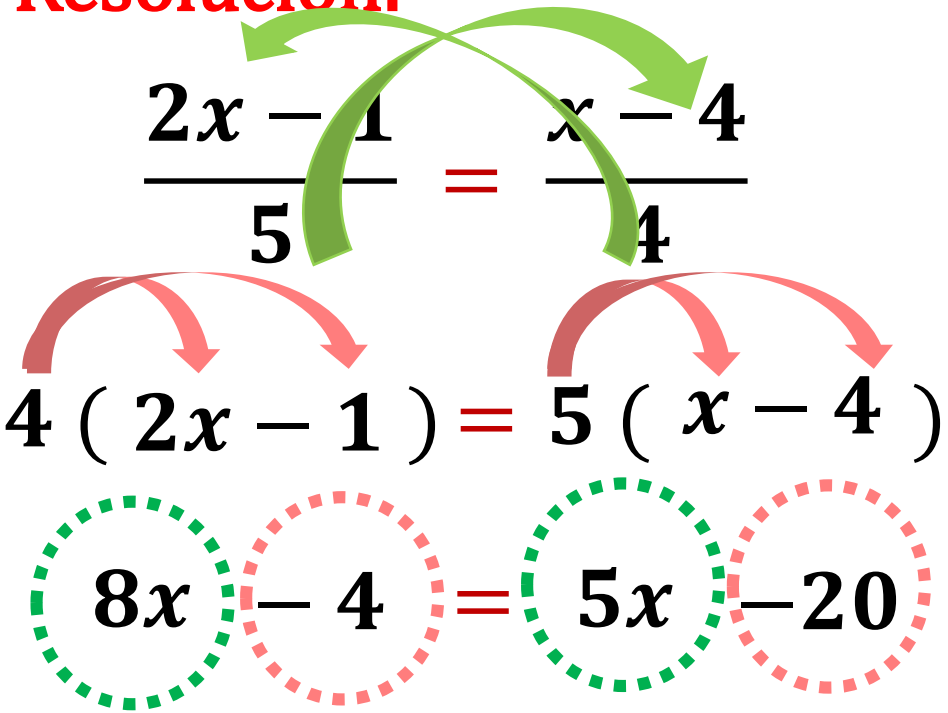
7 Determine el valor de x en:

$$\frac{2x-1}{5} = \frac{x-4}{4}$$

Resolución:



$$3x = -16$$

$$x = -16/3$$

$$\therefore x = -16/3$$

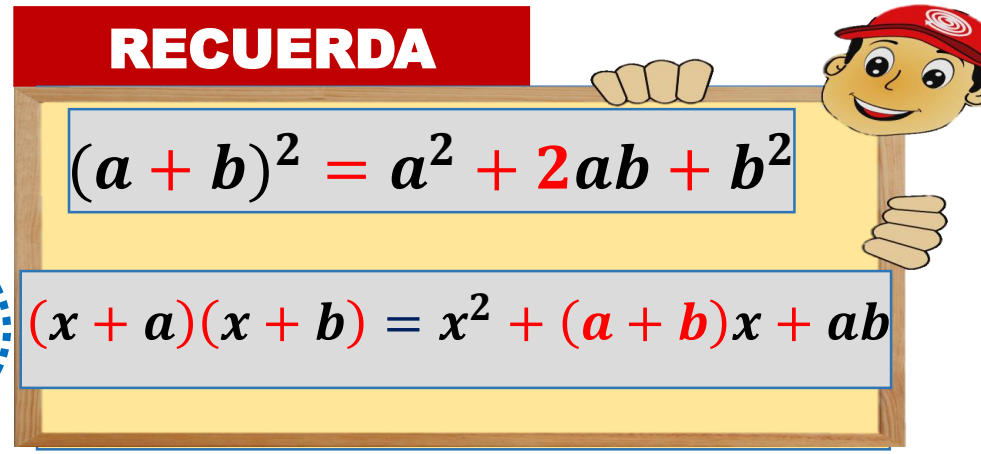
8 Halle el valor de m en $(m+3)^2 = (m+3)(m+2)$

Resolución:

$$(m)^2 + 2(m)(3) + (3)^2 = m^2 + 5m + 6$$

$$m^2 + 6m + 9 = m^2 + 5m + 6$$

$$m = -3$$



$\therefore m = -3$