

$$\frac{755 - 388}{388 - 755} = \frac{-(388 - 755)}{(388 - 755)} = -1$$

$$a - b = -(b - a)$$

$$\frac{-2020}{2020} =$$

2020

?  
-2020

A

-A

~~A · B~~  
~~A · C~~

pos. o  
negativo?

$$c(b + a) = cb + ca$$

-3 neg.  
-10 neg.

1.  $\frac{126}{24}$

2.  $\frac{15 - 35}{75}$

3.  $\frac{75}{15 - 35}$

4.  $\frac{75}{15 \cdot 35}$

5.  $\frac{755 - 388}{388 - 755}$

6.  $7 \cdot \frac{12}{21}$

7.  $7 \cdot \frac{-12}{24}$

8.  $18 \cdot \frac{12 \cdot 36}{24}$

9.  $\frac{18}{13} \cdot \frac{39}{2}$

10.  $(18 - 78) \cdot \frac{36}{24}$

11.  $\frac{60 \cdot 60 \cdot 24 \cdot 365}{25 \cdot 12 \cdot 36}$

12.  $\frac{\frac{3}{4} - 5}{\frac{6}{7} - 8}$

13.  $\frac{3}{4} - \frac{5}{\frac{6}{7} - 8}$

14.  $\left(\frac{2}{3}\right) \div \left(\frac{22}{33}\right)$

15.  $0.1 + \frac{1}{3}$

16.  $\frac{1.1}{3}$

17.  $\frac{3}{1.1} \cdot 0.021$

18.  $0.1 - 1$

19.  $\frac{2.01}{0.1 - 2}$

20.  $\frac{1 \cdot (-2) \cdot 3 \cdot (-4) \cdot 5 \cdot (-6)}{(-1) \cdot 2 \cdot (-3) \cdot 4 \cdot (-5) \cdot 6}$

21.  $\frac{1}{1.1}$

22.  $\frac{0.001 - 0.01}{0.1}$

23. 2.02

24. 0.202/0.0202

$$8. \quad 18 \cdot \frac{12 \cdot 36}{24} = 18 \cdot 18 = 324$$

$$8. \quad 9 \cdot \frac{12 \cdot 36}{24} = 9 \cdot 36 = 324$$

$$\left| \begin{array}{r} 36 \\ 9 \\ \hline 324 \\ \hline \end{array} \right. \begin{array}{r} 18 \\ 18 \\ \hline 144 \\ 18 \\ \hline 324 \\ \hline \end{array}$$

$$12. \quad \frac{\frac{4}{7} - \frac{5}{8}}{\frac{4}{7} - \frac{5}{8}} = \frac{\frac{3}{4} - \frac{5 \cdot 4}{4}}{\frac{6}{7} - \frac{8 \cdot 7}{7}} = \frac{\frac{3 - 5 \cdot 4}{4}}{\frac{6 - 8 \cdot 7}{7}} = \text{sin atajos}$$

$$= \frac{\frac{3 - 20}{4}}{\frac{6 - 56}{7}} = \frac{-\frac{17}{4}}{-\frac{50}{7}} = \frac{-17}{4} \cdot \frac{7}{-50} = \frac{119}{200}$$

~~NO USA~~  
LEY DE  
~~SANDWICH~~  
tortilla

otra manera

$$12. \frac{\frac{5}{8} - \frac{3}{7}}{\frac{5}{8} - \frac{6}{7}} = \frac{5 - \frac{3}{7}}{8 - \frac{6}{7}} = \frac{(5 - \frac{3}{7}) \cdot 7}{(8 - \frac{6}{7}) \cdot 7 \cdot 4} = \frac{(20 - 3) \cdot 7}{(8 \cdot 7 - 6) \cdot 4} = \frac{17 \cdot 7}{50 \cdot 4} = \frac{119}{200}$$

$$11. \frac{60 \cdot 60 \cdot 24 \cdot 365}{25 \cdot 12 \cdot 30} = 2 \cdot 2 \cdot 2 \cdot 365 = 8 \cdot 365 = 2920$$

$$17. \frac{3}{1.1} \cdot 0.021 = \frac{3}{\frac{11}{10}} \cdot \frac{21}{1000} = 3 \cdot \frac{10}{11} \cdot \frac{21}{1000} = \frac{63}{1100}$$

$$17. \frac{3}{1.1} \cdot 0.021 = \frac{3 \cdot 0.021}{1.1} = \frac{3 \cdot 0.021 \cdot 1000}{1.1 \cdot 1000} = \frac{3 \cdot 21}{1100} = \frac{63}{1100}$$

$$\begin{array}{r} 365 \\ 8 \\ \hline 2920 \end{array}$$

Potencias:

"NORMALES"

$3^{(2)} = \underbrace{3 \cdot 3}_{2 \text{ veces}}$

$2^{(7)} = \underbrace{2 \cdot 2 \cdot 2 \cdot 2 \cdot 2 \cdot 2 \cdot 2}_{7 \text{ veces}}$

$3^1 = 3$

$3^7 \cdot 3^5 = \underbrace{3 \cdot 3 \cdot 3 \cdot 3 \cdot 3}_{7 \text{ veces}} \cdot \underbrace{3 \cdot 3 \cdot 3 \cdot 3 \cdot 3}_{5 \text{ veces}}$  REGLAS de Potencia

$3^{-2} = ?$

$3^{-2/3} = ??$

$27^{-2/3} = ???$

$(\frac{1}{16})^{-1/4} = ?$

"EXOTICAS"

$3^7 \cdot 3^5 = 3^{12}$   
 $3^0 = \cancel{0} = 1$   
 $x \cdot 3^2 = 1$   
 $x = 1/3^2$   
 $3^{-2} = 3^2 = 3^{-2+2}$   
 $x = 3^0 = 1$

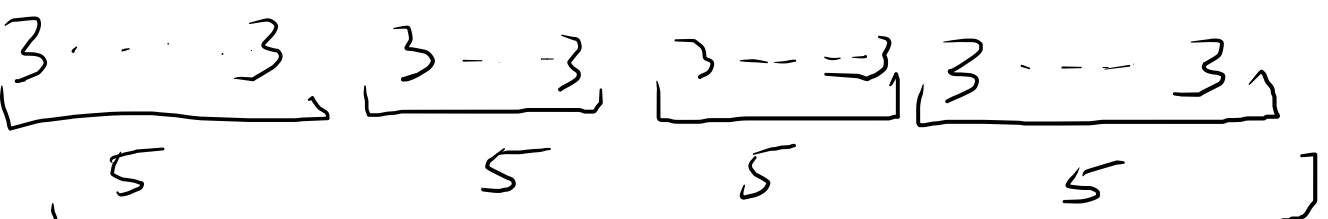
$a^m \cdot a^n = a^{m+n}$

$a^0 = 1 \quad (a \neq 0)$

$a^{-m} = \frac{1}{a^m}$

$(a^m)^n = a^{mn}$

$(3^5)^4 = 3^{20}$



$5 \cdot 4 = 20$

Leyes de potencia (hay más)

$$a^m a^n = a^{m+n}$$

$$a^0 = 1 \quad (a \neq 0)$$

$$a^{-m} = \frac{1}{a^m}$$

$$(a^m)^n = a^{mn}$$

$$3^7 \cdot 3^5 = 3^{12}$$

$$3^0 = \cancel{0} = 1$$

$$3^{-2} \cdot 3^2 = 3^{-2+2} = 3^0 = 1$$

$$x \cdot 3^2 = 1$$

$$x = \frac{1}{3^2}$$

$$a^m a^n = a^{m+n}$$

$$a^0 = 1 \quad (a \neq 0)$$

$$a^{-m} = \frac{1}{a^m}$$

$$(a^m)^n = a^{mn}$$

$$(3^5)^4 = 3^{20}$$

$$\underbrace{\underbrace{3 \cdots 3}_5 \underbrace{3 \cdots 3}_5 \underbrace{3 \cdots 3}_5 \underbrace{3 \cdots 3}_5}_{5 \cdot 4 = 20}$$

$$2^3 \cdot 2^2 = 8 \cdot 4 = 32$$

$$2^{3+2} = 2^5 = 32$$

$$\frac{3^7}{3^5} = \frac{\cancel{3} \cdot \cancel{3} \cdot \cancel{3} \cdot \cancel{3} \cdot \cancel{3} \cdot 3 \cdot 3}{\cancel{3} \cdot \cancel{3} \cdot \cancel{3} \cdot \cancel{3} \cdot \cancel{3}} = 9$$

$$3^{7-5} = 3^2 = 9$$

29d)  $-(-3)^{-2} = 9 \times$

$$(-3)^{-2} = \frac{1}{(-3)^2} = \frac{1}{9}$$

$$(-3)^2 = (-3)(-3)$$

Evalúe cada expresión.

13.  $2^3 \cdot 2^2$

14.  $3^2 \cdot 3^3$

15.  $\frac{3^7}{3^5}$

16.  $\frac{8^4}{8^3}$

17.  $9^{-2}$

18.  $5^{-2}$

19.  $\frac{1}{5^{-3}}$

20.  $\frac{1}{3^{-2}}$

21.  $15^0$

22.  $19^0$

23.  $(2^3)^2$

24.  $(3^2)^2$

25.  $(2 \cdot 4)^2$

26.  $(6 \cdot 5)^2$

27.  $\left(\frac{4}{7}\right)^2$

28.  $\left(\frac{2}{5}\right)^4$

Evalúe cada expresión.

29. a)  $3^{-2}$

b)  $(-3)^{-2}$

c)  $-3^{-2}$

d)  $-(-3)^{-2}$

30. a)  $4^{-3}$

b)  $(-4)^{-3}$

c)  $-4^{-3}$

d)  $-(-4)^{-3}$

31. a)  $\left(\frac{1}{2}\right)^{-1}$

b)  $\left(-\frac{1}{2}\right)^{-1}$

c)  $-\left(\frac{1}{2}\right)^{-1}$

d)  $-\left(-\frac{1}{2}\right)^{-1}$

32. a)  $\left(\frac{3}{4}\right)^{-2}$

b)  $\left(-\frac{3}{4}\right)^{-2}$

c)  $-\left(\frac{3}{4}\right)^{-2}$

d)  $-\left(-\frac{3}{4}\right)^{-2}$

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

$$\frac{a^m}{a^n} = a^{m-n}$$

$$a^{-m} = \frac{1}{a^m}$$

$$a^{1/2} = \sqrt{a}$$

$$\sqrt{9}$$

$$9^{1/2} \cdot 9^{1/2} = 9^{1/2 + 1/2} = 9^1 = 9$$

$$\frac{1}{9} = (-3)^{-2}$$

$$6^{1/2} \neq 3$$

$$\sqrt{6}$$

# LEY de la tortilla

tortilla volteada

dividir

algo

= algo



tortilla



multiplicar

$$\frac{2}{2/3} = 2 \cdot \frac{3}{2} = 3$$

ejemplo

$$\frac{1/4}{2/5} = (1/4) \cdot \frac{5}{2} = \frac{1}{4} \cdot \frac{5}{2} = \frac{5}{8}$$

tortilla

tortilla  
volteada