

Espressioni con le quattro operazioni e le potenze. Livello base.

Completi di soluzione guidata.

Evaluating Expressions Involving Fractions – With solutions

1.  $\frac{1}{3} + \left(\frac{2}{3}\right)^1 - \left(\frac{2}{3}\right)^0 + \frac{10}{6} - \frac{2}{3}$  [1]  
[soluzione](#)
2.  $\frac{1}{2} + \frac{1}{2} - \left(1 - \frac{1}{2}\right)^3 : \left(\frac{2}{4}\right)^2 - \left(\frac{1}{2}\right)^1$  [0]  
[soluzione](#)
3.  $\frac{1}{2} + \left(\frac{1}{2}\right)^2 - \left(\frac{1}{2}\right)^0 + 1$   $\left[\frac{3}{4}\right]$   
[soluzione](#)
4.  $\left(\frac{2}{3}\right)^2 - \frac{1}{3} + \left(\frac{1}{3}\right)^3 : \left(\frac{2}{3}\right) : \frac{1}{2} + \left(\frac{1}{3}\right)^0$   $\left[\frac{11}{9}\right]$   
[soluzione](#)
5.  $\left(\frac{1}{2}\right)^5 : \left[\left(\frac{1}{2}\right)^2\right]^2 + \frac{13}{2} : \frac{26}{3} - \frac{5}{6}$   $\left[\frac{5}{12}\right]$   
[soluzione](#)
6.  $\left(\frac{5}{6}\right)^0 + \frac{3}{2} - \left(\frac{2}{3}\right)^3 : \left(\frac{2}{3}\right)^2 - \left(\frac{1}{2}\right)^1$   $\left[\frac{4}{3}\right]$   
[soluzione](#)
7.  $\frac{1}{5} + \left(\frac{2}{3}\right)^2 : \left(\frac{2}{6}\right)^2 - 4 \cdot \left(\frac{17}{4}\right)^0 + \frac{1}{3}$   $\left[\frac{8}{15}\right]$   
[soluzione](#)
8.  $\frac{1}{2} + \left(\frac{2}{3}\right)^6 : \left(\frac{2}{3}\right)^4 - \frac{2}{9} - \frac{2}{3}$   $\left[\frac{1}{18}\right]$   
[soluzione](#)
9.  $\left\{1 - \left[1 - \left(\frac{1}{3} + \frac{1}{6}\right)\right]\right\}^2 \cdot \left[2 - \left(\frac{1}{2} + \frac{7}{10}\right) : 3\right]^2 \cdot \left(\frac{3}{4} + \frac{1}{2}\right)^2$  [1]  
[soluzione](#)
10.  $\frac{1}{3} + \left(\frac{1}{3}\right)^2 \cdot \left(\frac{1}{3}\right)^2 : \left(\frac{1}{3}\right)^3 - \frac{2}{3^2}$   $\left[\frac{4}{9}\right]$   
[soluzione](#)
11.  $\left\{\left[1 + \frac{3}{4} - \frac{1}{2}\right]^2 - \left(2 - \frac{7}{4}\right)^2\right\} : \left(\frac{5}{3} - \frac{1}{6}\right)^3\right\}^2 : \left[\left(\frac{2}{3}\right)^6 : \left(\frac{2}{3}\right)^4\right]^2$  [1]  
[soluzione](#)
12.  $\left[\left(\frac{3}{5}\right)^2\right]^4 : \left(\frac{3}{5}\right)^6$   $\left[\frac{9}{25}\right]$   
[soluzione](#)

13.  $\left[\left(\frac{2}{7}\right)^2 \cdot \left(\frac{2}{7}\right)^3\right]^2 : \left(\frac{2}{7}\right)^8$   $\left[\frac{4}{49}\right]$   
[soluzione](#)
14.  $\left[\left(\frac{2}{3}\right)^4 \cdot \left(\frac{2}{3}\right)^3\right]^2 : \left(\frac{2}{3}\right)^{12}$   $\left[\frac{4}{9}\right]$   
[soluzione](#)
15.  $\left[\left(\frac{1}{3}\right)^6 : \left(\frac{1}{3}\right)^4\right]^2 : \left[\left(\frac{1}{3}\right)^2 \cdot \left(\frac{1}{3}\right)^2\right]$  [1]  
[soluzione](#)
16.  $\left[\left(\frac{3}{4}\right)^6 : \left(\frac{3}{4}\right)^4\right]^3 : \left[\frac{3}{4} \cdot \left(\frac{3}{4}\right)^2\right]^2$  [1]  
[soluzione](#)
17.  $\left[\left(\frac{4}{9}\right)^3 : \left(\frac{2}{9}\right)^3\right]^2 : \left[\left(\frac{9}{8}\right)^2 \cdot \left(\frac{16}{9}\right)^2\right]^3$  [1]  
[soluzione](#)
18.  $\left\{\left[\left(\frac{1}{3}\right)^4 \cdot \left(\frac{1}{3}\right)^2\right]^3 : \left(\frac{1}{3}\right)^9\right\} : \left[\left(\frac{1}{3}\right)^3 \cdot \frac{1}{3}\right]^2$   $\left[\frac{1}{3}\right]$   
[soluzione](#)
19.  $\left\{\left(\frac{1}{3}\right)^4 \cdot \left(\frac{1}{3}\right)^5 : \left[\left(\frac{1}{3}\right)^2\right]^4\right\}^3 : \left(\frac{1}{2}\right)^0$   $\left[\frac{1}{27}\right]$   
[soluzione](#)

## Soluzioni

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$$\frac{1}{3} + \left(\frac{2}{3}\right)^1 - \left(\frac{2}{3}\right)^0 + \frac{10}{6} - \frac{2}{3} =$$

Ricorda che

$$a^1 = a \quad \forall a \in \mathbb{Q}$$

$$a^0 = 1 \quad \forall a \neq 0 \in \mathbb{Q}$$

$$= \frac{4}{3} + \frac{2}{3} - 1 + \frac{10}{6} - \frac{2}{3} =$$

$$= \frac{4 + 2 - 3 + 5 - 2}{3} =$$

$$= \frac{3^1}{3_1} = 1$$

$$\frac{1}{2} + \frac{1}{2} - \left(1 - \frac{1}{2}\right)^3 : \left(\frac{2}{4}\right)^2 - \left(\frac{1}{2}\right)^1 =$$

Ricorda che

$$a^1 = a \quad \forall a \in \mathbb{Q}$$

$$= \frac{1}{2} + \frac{1}{2} - \left(\frac{2-1}{2}\right)^3 : \left(\frac{2^1}{4_2}\right)^2 - \frac{1}{2} =$$

Applico la proprietà del quoziente di potenze con la stessa base

$$a^m : a^n = a^{m-n} \quad \forall a \in \mathbb{Q}$$

$$= \frac{1}{2} + \frac{1}{2} - \left(\frac{1}{2}\right)^{3-2} - \frac{1}{2} =$$

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

Ricorda che

$$a^1 = a \quad \forall a \in \mathbb{Q}$$

$$= \frac{1}{2} + \frac{1}{2} - \frac{1}{2} - \frac{1}{2} = 0$$

$$\frac{1}{2} + \left(\frac{1}{2}\right)^2 - \left(\frac{1}{2}\right)^0 + 1 =$$

Applico la definizione di elevamento a potenza

$$\left(\frac{1}{2}\right)^2 = \frac{1}{2} \cdot \frac{1}{2} = \frac{1^2}{2^2} = \frac{1}{4}$$

Ricorda che

$$a^0 = 1 \quad \forall a \neq 0 \in \mathbb{Q}$$

$$= \frac{1}{2} + \frac{1}{4} - 1 + 1 =$$

$$= \frac{1}{2} + \frac{1}{4} =$$

$$= \frac{2+1}{4} = \frac{3}{4}$$

$$\left(\frac{2}{3}\right)^2 - \frac{1}{3} + \left(\frac{1}{3}\right)^3 : \left(\frac{2}{3}\right) : \frac{1}{2} + \left(\frac{1}{3}\right)^0 =$$

Applico la definizione di elevamento a potenza

$$\left(\frac{2}{3}\right)^2 = \frac{2}{3} \cdot \frac{2}{3} = \frac{2^2}{3^2} = \frac{4}{9} \quad \left(\frac{1}{3}\right)^3 = \frac{1}{3} \cdot \frac{1}{3} \cdot \frac{1}{3} = \frac{1^3}{3^3} = \frac{1}{27}$$

Ricorda che

$$a^0 = 1 \quad \forall a \neq 0 \in \mathbb{Q}$$

$$= \frac{4}{9} - \frac{1}{3} + \frac{1}{27} \cdot \frac{3^1}{1^2} \cdot \frac{2^1}{1} + 1 =$$

$$= \frac{4}{9} - \frac{1}{3} + \frac{1}{9} + 1 =$$

$$= \frac{4 - 3 + 1 + 9}{9} = \frac{11}{9}$$

$$\left(\frac{1}{2}\right)^5 : \left[\left(\frac{1}{2}\right)^{2 \cdot 2}\right] + \frac{13}{2} : \frac{26}{3} - \frac{5}{6} =$$

Applico la proprietà della potenza di potenza

$$(a^m)^n = a^{n \cdot m}$$

$$= \left(\frac{1}{2}\right)^5 : \left(\frac{1}{2}\right)^{2 \cdot 2} + \frac{13}{2} \cdot \frac{3}{26} - \frac{5}{6} =$$

$$= \left(\frac{1}{2}\right)^5 : \left(\frac{1}{2}\right)^4 + \frac{1}{2} \cdot \frac{3}{2} - \frac{5}{6} =$$

Applico la proprietà del quoziente di potenze con la stessa base

$$a^m : a^n = a^{m-n} \qquad a^1 = a \qquad \forall a \in \mathbb{Q}$$

$$= \left(\frac{1}{2}\right)^{5-4} + \frac{3}{4} - \frac{5}{6} =$$

$$= \left(\frac{1}{2}\right)^1 + \frac{3}{4} - \frac{5}{6} =$$

Ricorda che

$$a^1 = a \qquad \forall a \in \mathbb{Q}$$

$$= \frac{1}{2} + \frac{3}{4} - \frac{5}{6} =$$

$$= \frac{6 + 9 - 10}{12} = \frac{5}{12}$$

$$\left(\frac{5}{6}\right)^0 + \frac{3}{2} - \left(\frac{2}{3}\right)^3 : \left(\frac{2}{3}\right)^2 - \left(\frac{1}{2}\right)^1 =$$

Ricorda che

$$a^0 = 1 \quad \forall a \neq 0 \in \mathbb{Q}$$

$$a^1 = a \quad \forall a \in \mathbb{Q}$$

Applico la proprietà del quoziente di potenze con la stessa base

$$a^m : a^n = a^{m-n} \quad a^1 = a \quad \forall a \in \mathbb{Q}$$

$$= 1 + \frac{3}{2} - \left(\frac{2}{3}\right)^{3-2} - \frac{1}{2} =$$

$$= 1 + \frac{3}{2} - \left(\frac{2}{3}\right)^1 - \frac{1}{2} =$$

Ricorda che

$$a^1 = a \quad \forall a \in \mathbb{Q}$$

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

$$= \frac{6 + 9 - 4 - 3}{6} =$$

$$= \frac{8}{6} = \frac{4}{3}$$



$$\frac{1}{5} + \left(\frac{2}{3}\right)^2 : \left(\frac{2}{6}\right)^2 - 4 \cdot \left(\frac{17}{4}\right)^0 + \frac{1}{3} =$$

Applico la proprietà del quoziente di potenze con lo stesso esponente

$$a^m : b^m = (a : b)^m \quad \forall a, b \in \mathbb{Q}$$

$$= \frac{1}{5} + \left(\frac{2}{3} : \frac{2}{6}\right)^2 - 4 \cdot 1 + \frac{1}{3} =$$

$$= \frac{1}{5} + \left(\frac{2}{3} \cdot \frac{6}{2}\right)^2 - 4 + \frac{1}{3} = \quad \frac{6}{3} = \frac{2}{1} = 2$$

$$= \frac{1}{5} + \left(\frac{2}{1}\right)^2 - 4 + \frac{1}{3} =$$

$$= \frac{1}{5} + 4 - 4 + \frac{1}{3} =$$

$$= \frac{1}{5} + \frac{1}{3} =$$

$$= \frac{3+5}{15} = \frac{8}{15}$$

$$\frac{1}{2} + \left(\frac{2}{3}\right)^6 : \left(\frac{2}{3}\right)^4 - \frac{2}{9} - \frac{2}{3} =$$

Applico la proprietà del quoziente di potenze con la stessa base

$$a^m : a^n = a^{m-n} \quad \forall a \in \mathbb{Q}$$

$$= \frac{1}{2} + \left(\frac{2}{3}\right)^{6-4} - \frac{2}{9} - \frac{2}{3} =$$

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

Applico la definizione di elevamento a potenza

$$\left(\frac{2}{3}\right)^2 = \frac{2}{3} \cdot \frac{2}{3} = \frac{2^2}{3^2} = \frac{4}{9}$$

$$= \frac{1}{2} + \frac{4}{9} - \frac{2}{9} - \frac{2}{3} =$$

$$= \frac{9 + 8 - 4 - 12}{18} = \frac{1}{18}$$

$$\begin{aligned} & \left\{ 1 - \left[ 1 - \left( \frac{1}{3} + \frac{1}{6} \right) \right] \right\}^2 \cdot \left[ 2 - \left( \frac{1}{2} + \frac{7}{10} \right) : 3 \right]^2 \cdot \left( \frac{3}{4} + \frac{1}{2} \right)^2 = \\ & = \left\{ 1 - \left[ 1 - \frac{2+1}{6} \right] \right\}^2 \cdot \left[ 2 - \frac{5+7}{10} : 3 \right]^2 \cdot \left( \frac{3+2}{4} \right)^2 = \\ & = \left\{ 1 - \left[ 1 - \frac{3^1}{6_2} \right] \right\}^2 \cdot \left[ 2 - \frac{12}{10} \cdot \frac{1}{3} \right]^2 \cdot \left( \frac{5}{4} \right)^2 = \end{aligned}$$

Applico la definizione di elevamento a potenza

$$\begin{aligned} & \left( \frac{a}{b} \right)^n = \frac{a^n}{b^n} \rightarrow \frac{5^2}{4^2} = \frac{25}{16} \\ & = \left\{ 1 - \left[ 1 - \frac{3^1}{6_2} \right] \right\}^2 \cdot \left[ 2 - \frac{12}{10_5} \cdot \frac{1}{3_1} \right]^2 \cdot \frac{25}{16} = \\ & = \left\{ 1 - \frac{1}{2} \right\}^2 \cdot \left[ \frac{10-2}{5} \right]^2 \cdot \frac{25}{16} = \\ & = \left\{ \frac{1}{2} \right\}^2 \cdot \left[ \frac{8}{5} \right]^2 \cdot \frac{25}{16} = \end{aligned}$$

Applico la definizione di elevamento a potenza

$$\begin{aligned} & \left( \frac{a}{b} \right)^n = \frac{a^n}{b^n} \\ & = \frac{1}{_1 4} \cdot \frac{64^{16^1}}{_1 25} \cdot \frac{25^1}{16_1} = 1 \end{aligned}$$

$$\frac{1}{3} + \left(\frac{1}{3}\right)^2 \cdot \left(\frac{1}{3}\right)^2 : \left(\frac{1}{3}\right)^3 - \frac{2}{3^2} =$$

Applico la proprietà del prodotto e del quoziente di potenze con la stessa base

$$a^m \cdot a^n = a^{m+n} \qquad a^1 = a \qquad \forall a \in \mathbb{Q}$$

$$a^m : a^n = a^{m-n} \qquad a^1 = a \qquad \forall a \in \mathbb{Q}$$

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

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

Ricorda che

$$a^1 = a \qquad \forall a \in \mathbb{Q}$$

$$= \frac{1}{3} + \frac{1}{3} - \frac{2}{9} =$$

$$= \frac{3 + 3 - 2}{9} = \frac{4}{9}$$

$$\left\{ \left[ \left( 1 + \frac{3}{4} - \frac{1}{2} \right)^2 - \left( 2 - \frac{7}{4} \right)^2 \right] : \left( \frac{5}{3} - \frac{1}{6} \right)^3 \right\}^2 : \left[ \left( \frac{2}{3} \right)^6 : \left( \frac{2}{3} \right)^4 \right]^2 =$$

Applico la proprietà del quoziente di potenze con la stessa base

$$a^m : a^n = a^{m-n} \quad \forall a \in \mathbb{Q}$$

$$= \left\{ \left[ \left( \frac{4+3-2}{4} \right)^2 - \left( \frac{8-7}{4} \right)^2 \right] : \left( \frac{10-1}{6} \right)^3 \right\}^2 : \left[ \left( \frac{2}{3} \right)^{6-4} \right]^2 =$$

$$= \left\{ \left[ \left( \frac{5}{4} \right)^2 - \left( \frac{1}{4} \right)^2 \right] : \left( \frac{9^3}{6} \right)^3 \right\}^2 : \left[ \left( \frac{2}{3} \right)^2 \right]^2 =$$

Applico la proprietà della potenza di potenza

$$(a^m)^n = a^{m \cdot n}$$

$$= \left\{ \left[ \frac{25}{16} - \frac{1}{16} \right] : \frac{27}{8} \right\}^2 : \left( \frac{2}{3} \right)^{2 \cdot 2} =$$

$$= \left\{ \left[ \frac{25-1}{16} \right] \cdot \frac{8}{27} \right\}^2 : \left( \frac{2}{3} \right)^4 =$$

$$= \left\{ \frac{24}{16} \cdot \frac{8}{27} \right\}^2 : \frac{16}{81} =$$

$$= \left\{ \frac{4 \cdot 8}{2} \cdot \frac{1}{9} \right\}^2 \cdot \frac{81}{16} =$$

$$= \left\{ \frac{4}{9} \right\}^2 \cdot \frac{81}{16} =$$

$$= \frac{16}{81} \cdot \frac{81}{16} = 1$$

$$\left[\left(\frac{3}{5}\right)^2\right]^4 : \left(\frac{3}{5}\right)^6 =$$

Applico la proprietà della potenza di potenza

$$(a^m)^n = a^{m \cdot n}$$

$$= \left(\frac{3}{5}\right)^{2 \cdot 4} : \left(\frac{3}{5}\right)^6 =$$

$$= \left(\frac{3}{5}\right)^8 : \left(\frac{3}{5}\right)^6 =$$

Applico la proprietà del quoziente di potenze con la stessa base

$$a^m : a^n = a^{m-n} \quad \forall a \in \mathbb{Q}$$

$$= \left(\frac{3}{5}\right)^{8-6} =$$

$$= \left(\frac{3}{5}\right)^2 = \frac{9}{25}$$

$$\begin{aligned}
 & \left[ \left( \frac{2}{7} \right)^2 \cdot \left( \frac{2}{7} \right)^3 \right]^2 : \left( \frac{2}{7} \right)^8 = \\
 & = \left[ \left( \frac{2}{7} \right)^{2+3} \right]^2 : \left( \frac{2}{7} \right)^8 = \\
 & = \left[ \left( \frac{2}{7} \right)^5 \right]^2 : \left( \frac{2}{7} \right)^8 = \\
 & = \left( \frac{2}{7} \right)^{5 \cdot 2} : \left( \frac{2}{7} \right)^8 = \\
 & = \left( \frac{2}{7} \right)^{10} : \left( \frac{2}{7} \right)^8 = \\
 & = \left( \frac{2}{7} \right)^{10-8} = \left( \frac{2}{7} \right)^2 = \frac{4}{49}
 \end{aligned}$$


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$$\begin{aligned}
 & \left[ \left( \frac{2}{3} \right)^4 \cdot \left( \frac{2}{3} \right)^3 \right]^2 : \left( \frac{2}{3} \right)^{12} = \\
 & = \left[ \left( \frac{2}{3} \right)^{4+3} \right]^2 : \left( \frac{2}{3} \right)^{12} = \\
 & = \left[ \left( \frac{2}{3} \right)^7 \right]^2 : \left( \frac{2}{3} \right)^{12} = \\
 & = \left( \frac{2}{3} \right)^{7 \cdot 2} : \left( \frac{2}{3} \right)^{12} = \\
 & = \left( \frac{2}{3} \right)^{14} : \left( \frac{2}{3} \right)^{12} = \\
 & = \left( \frac{2}{3} \right)^{14-12} = \left( \frac{2}{3} \right)^2 = \frac{4}{9}
 \end{aligned}$$

$$\begin{aligned}
 & \left[ \left( \frac{1}{3} \right)^6 : \left( \frac{1}{3} \right)^4 \right]^2 : \left[ \left( \frac{1}{3} \right)^2 \cdot \left( \frac{1}{3} \right)^2 \right] = \\
 & = \left[ \left( \frac{1}{3} \right)^{6-4} \right]^2 : \left[ \left( \frac{1}{3} \right)^{2+2} \right] = \\
 & = \left[ \left( \frac{1}{3} \right)^2 \right]^2 : \left( \frac{1}{3} \right)^4 = \\
 & = \left( \frac{1}{3} \right)^{2 \cdot 2} : \left( \frac{1}{3} \right)^4 = \\
 & = \left( \frac{1}{3} \right)^4 : \left( \frac{1}{3} \right)^4 = 1
 \end{aligned}$$


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$$\begin{aligned}
 & \left[ \left( \frac{3}{4} \right)^6 : \left( \frac{3}{4} \right)^4 \right]^3 : \left[ \frac{3}{4} \cdot \left( \frac{3}{4} \right)^2 \right]^2 = \\
 & = \left[ \left( \frac{3}{4} \right)^{6-4} \right]^3 : \left[ \left( \frac{3}{4} \right)^{1+2} \right]^2 = \\
 & = \left[ \left( \frac{3}{4} \right)^2 \right]^3 : \left[ \left( \frac{3}{4} \right)^3 \right]^2 = \\
 & = \left( \frac{3}{4} \right)^{2 \cdot 3} : \left( \frac{3}{4} \right)^{2 \cdot 3} = \\
 & = \left( \frac{3}{4} \right)^6 : \left( \frac{3}{4} \right)^6 = \\
 & = \left( \frac{3}{4} \right)^{6-6} = \left( \frac{3}{4} \right)^0 = 1
 \end{aligned}$$




$$\begin{aligned}
 & \left[ \left( \frac{4}{9} \right)^3 : \left( \frac{2}{9} \right)^3 \right]^2 : \left[ \left( \frac{9}{8} \right)^2 \cdot \left( \frac{16}{9} \right)^2 \right]^3 = \\
 & = \left[ \left( \frac{4}{9} : \frac{2}{9} \right)^3 \right]^2 : \left[ \left( \frac{9}{8} \right)^2 \cdot \left( \frac{16}{9} \right)^2 \right]^3 = \\
 & = \left[ \left( \frac{4}{\cancel{9}^1} \cdot \frac{\cancel{9}^1}{2} \right)^3 \right]^2 : \left[ \left( \frac{\cancel{9}^1}{8} \cdot \frac{16}{\cancel{9}^1} \right)^2 \right]^3 = \\
 & = \left[ (2)^3 \right]^2 : \left[ (2)^2 \right]^3 = \\
 & = 2^6 : 2^6 = \\
 & = 2^{6-6} = 2^0 = 1
 \end{aligned}$$




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$$\begin{aligned}
 & \left\{ \left[ \left( \frac{1}{3} \right)^4 \cdot \left( \frac{1}{3} \right)^2 \right]^3 : \left( \frac{1}{3} \right)^9 \right\} : \left[ \left( \frac{1}{3} \right)^3 \cdot \frac{1}{3} \right]^2 = \\
 & = \left\{ \left[ \left( \frac{1}{3} \right)^{4+2} \right]^3 : \left( \frac{1}{3} \right)^9 \right\} : \left[ \left( \frac{1}{3} \right)^{3+1} \right]^2 = \\
 & = \left\{ \left[ \left( \frac{1}{3} \right)^6 \right]^3 : \left( \frac{1}{3} \right)^9 \right\} : \left[ \left( \frac{1}{3} \right)^4 \right]^2 = \\
 & = \left\{ \left( \frac{1}{3} \right)^{6 \cdot 3} : \left( \frac{1}{3} \right)^9 \right\} : \left( \frac{1}{3} \right)^{4 \cdot 2} = \\
 & = \left\{ \left( \frac{1}{3} \right)^{18} : \left( \frac{1}{3} \right)^9 \right\} : \left( \frac{1}{3} \right)^8 = \\
 & = \left( \frac{1}{3} \right)^{18-9} : \left( \frac{1}{3} \right)^8 = \\
 & = \left( \frac{1}{3} \right)^9 : \left( \frac{1}{3} \right)^8 = \\
 & = \left( \frac{1}{3} \right)^{9-8} = \left( \frac{1}{3} \right)^1 = \frac{1}{3}
 \end{aligned}$$


$$\begin{aligned} & \left\{ \left( \frac{1}{3} \right)^4 \cdot \left( \frac{1}{3} \right)^5 : \left[ \left( \frac{1}{3} \right)^2 \right]^4 \right\}^3 : \left( \frac{1}{2} \right)^0 = \\ & = \left\{ \left( \frac{1}{3} \right)^9 : \left( \frac{1}{3} \right)^8 \right\}^3 : 1 = \\ & = \left\{ \frac{1}{3} \right\}^3 = \frac{1}{27} \end{aligned}$$


## Keywords

 *Matematica, Aritmetica, Frazioni, Espressioni Q, addizione, sottrazione, moltiplicazione, divisione, esercizi con soluzioni*

  *Math, Arithmetic, Fraction expressions, Fraction, Expression, Addition, Subtraction, Multiplication, Division, Fraction expressions solved*

 *Matemática, Aritmética, Fracción, Expresiones, Resta, Sustracción, Suma, Adición, Multiplicación, División*

 *Mathématique, Arithmétique, Fraction, Problèmes avec fractions, Addition, Soustraction, Multiplication, Division*

 *Mathematik, Arithmetik, Bruchrechnung, Bruch, Subtraktion, Addition, Multiplikation, Division*

Arabic: كَسْر

Chinese (Simplified): 分数

Chinese (Traditional): 分數

Czech: zlomek

Danish: brøkdæl

Dutch: deel, breuk

Estonian: murd(arv)

Finnish: murtoluku

French: fraction

Greek: κλάσμα

Hungarian: hányad, tört(rész)

Icelandic: brot

Indonesian: pecahan

Japanese: 分数

Korean: 분수

Lithuanian: trupmena

Norwegian: brøk(del)

Polish: ułamek

Portuguese (Brazil): fração

Portuguese (Portugal): fracção

Romanian: fracție

Russian: дробь

Slovak: zlomok

Slovenian: ulomek

Swedish: del

Turkish: kesir