

## O conjunto dos números racionais

### Exercícios

1. Sendo  $a = \frac{3}{4} - \frac{5}{6}$  e  $b = 2\frac{1}{3} - \left(-\frac{1}{6}\right)$ , calcule  $a \div b$ .
2. Calcule o valor de  $m \times n$ , sabendo que  $m = -2\frac{1}{3} - 1$  e  $n = -\frac{2}{5} + 0,2$ .
3. Calcule o valor da expressão:  $\left(-\frac{5}{6} \div \frac{4}{3}\right) \times \left(-\frac{2}{3} - 0,2\right)$
4. Calcule o valor da expressão:  $\left(-2\frac{3}{4} - 0,5 + \frac{1}{5}\right) \div \left(3\frac{1}{3} - 4\frac{1}{2}\right)$
5. Calcule as potências:
  - a.  $20^{-1}$
  - b.  $6^{-2}$
  - c.  $\left(-\frac{2}{5}\right)^{-3}$
  - d.  $\left(\frac{3}{4}\right)^{-4}$
  - e.  $\left(-\frac{1}{2}\right)^{-5}$
  - f.  $\left(\frac{3}{7}\right)^{-3}$
6. Calcule o valor das expressões:
  - a.  $\left(-\frac{1}{2}\right)^{-2} + \left(\frac{1}{3}\right)^{-1}$
  - b.  $2^{-1} + 3^{-1}$
  - c.  $\left(\frac{2}{3}\right)^{-1} + \left(-\frac{1}{3}\right)^{-2}$
  - d.  $\left(\frac{3}{4}\right)^{-3} - \left(\frac{9}{5}\right)^{-2}$
  - e.  $\left(-\frac{2}{5}\right)^{-3} - \left(\frac{2}{3}\right)^{-4}$
  - f.  $\left(\frac{1}{4}\right)^{-1} - \left(\frac{3}{5}\right)^{-2}$
  - g.  $2\sqrt{\frac{9}{16}} + \sqrt{\frac{25}{144}}$
  - h.  $5\sqrt{\frac{4}{81}} - \sqrt{\frac{49}{36}}$
  - i.  $\sqrt{1 + \frac{17}{64}} \times \sqrt{3 + \frac{94}{9}}$

7. Calcule o valor da expressão numérica:

a.  $\frac{2}{3} \times \left(-\frac{1}{2}\right) + \frac{3}{5}$

b.  $-\frac{3}{4} \times \frac{2}{5} - \frac{2}{10}$

c.  $\left(3 - \frac{1}{2}\right) \times \frac{1}{4}$

d.  $\left(\frac{2}{3} - \frac{1}{2}\right) \div \left(-\frac{3}{4}\right)$

e.  $\left(-\frac{2}{3}\right)^3 \div \frac{8}{9}$

f.  $\left(-\frac{1}{2} + \frac{2}{3}\right) \times \left(2 - \frac{1}{4}\right)$

g.  $\left(-2 + \frac{1}{3}\right) \div \left(\frac{2}{3} - 3\right)$

h.  $\left(\frac{3}{4} - \frac{5}{6}\right) \div \left(\frac{2}{3} - \frac{1}{2}\right)$

i.  $\left(3 + \frac{1}{2} - \frac{1}{3}\right) \div \left(\frac{1}{2} - \frac{9}{4}\right)$

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

k.  $\left(-2 + \frac{1}{2}\right)^2 \times \left(\frac{2}{3} - \frac{1}{4}\right)$

l.  $\left(\frac{3}{2} - \frac{1}{3}\right)^2 \div \left(\frac{3}{4} - \frac{1}{2}\right)^2$

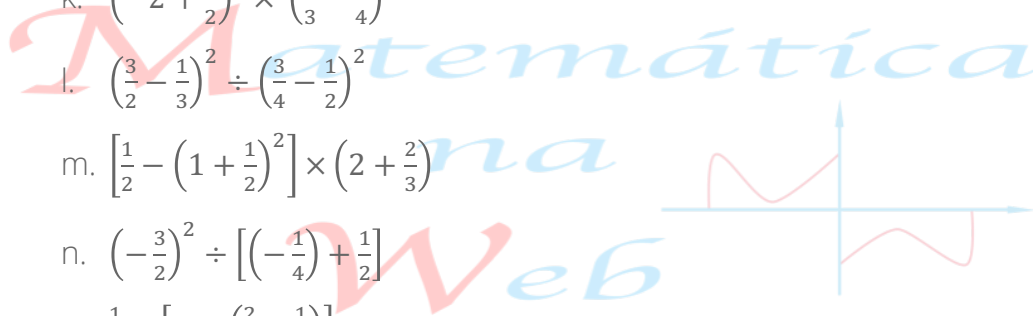
m.  $\left[\frac{1}{2} - \left(1 + \frac{1}{2}\right)^2\right] \times \left(2 + \frac{2}{3}\right)$

n.  $\left(-\frac{3}{2}\right)^2 \div \left[\left(-\frac{1}{4}\right) + \frac{1}{2}\right]$

o.  $\frac{1}{2} \div \left[2 - \left(\frac{2}{3} + \frac{1}{4}\right)\right]$

p.  $(-6) \div \left[\left(-\frac{2}{3}\right)^3 \times \left(\frac{10}{9} - \frac{2}{15} + \frac{10}{6}\right)\right]$

q.  $\left(\frac{3}{4} - \frac{1}{2}\right)^3 - \left[\frac{5}{2} + \frac{1}{3} \times \left(-\frac{3}{4}\right)\right]$



Respostas:

1.  $-\frac{1}{5}$

2.  $\frac{2}{3}$

3.  $\frac{13}{24}$

4.  $-\frac{183}{70}$

5.

a.  $\frac{1}{20}$

b.  $\frac{1}{36}$

c.  $-\frac{125}{8}$

d.  $\frac{256}{81}$

e. 32

f.  $\frac{343}{27}$

6.

a. 7

b.  $\frac{5}{6}$

c.  $\frac{21}{2}$

d.  $\frac{167}{81}$

e.  $-\frac{331}{16}$

f.  $\frac{11}{9}$

g.  $\frac{23}{12}$

h.  $-\frac{1}{18}$

i.  $\frac{33}{8}$



7.

a.  $\frac{1}{15}$

b.  $-\frac{1}{2}$

c.  $\frac{5}{8}$

d.  $-\frac{2}{9}$

e.  $-\frac{1}{3}$

f.  $\frac{7}{24}$

g.  $\frac{5}{7}$

h.  $-\frac{1}{2}$

i.  $-\frac{38}{21}$

j.  $-\frac{3}{8}$

k.  $\frac{45}{16}$

l.  $\frac{196}{9}$

m.  $-\frac{14}{3}$

n. 9

o.  $\frac{6}{13}$

p. 2

q. -2

