departamento de matemática   **universidade de aveiro**

1. Calcule:

(a) $\dfrac{3}{6} + \dfrac{2}{6}$ (b) $\dfrac{13}{7} + \dfrac{1}{7}$ (c) $\dfrac{2}{7} + \dfrac{1}{7}$ (d) $\dfrac{4}{10} + \dfrac{3}{10}$

(e) $\dfrac{5}{8} + \dfrac{3}{2}$ (f) $\dfrac{8}{6} + \dfrac{1}{3}$ (g) $\dfrac{5}{6} + \dfrac{2}{5}$ (h) $\dfrac{7}{4} + \dfrac{3}{7}$

(i) $\dfrac{1}{9} + \dfrac{4}{5}$ (j) $\dfrac{1}{8} - \dfrac{5}{2}$ (k) $\dfrac{8}{7} - \dfrac{1}{3}$ (l) $\dfrac{5}{2} - \dfrac{7}{5}$

(m) $\dfrac{7}{2} - \dfrac{3}{9}$ (n) $\dfrac{1}{9} - \dfrac{3}{5}$ (o) $\dfrac{5}{6} + \dfrac{2}{7} + 6$ (p) $\dfrac{7}{8} + \dfrac{9}{2} + \dfrac{1}{3}$

(q) $\dfrac{1}{5} + \dfrac{4}{7} + 4$ (r) $\dfrac{9}{4} + \dfrac{2}{5} + \dfrac{1}{7}$ (s) $\dfrac{3}{4} + 2 + \dfrac{6}{7}$ (t) $\dfrac{7}{8} - \dfrac{9}{2} - \dfrac{1}{3}$

(u) $\dfrac{1}{5} - \dfrac{4}{7} - 4$ (v) $\dfrac{9}{4} - \dfrac{2}{5} - \dfrac{1}{7}$ (w) $\dfrac{5}{6} - \dfrac{2}{7} - 6$ (x) $\dfrac{3}{4} - 2 - \dfrac{6}{7}$

2. Calcule:

(a) $\dfrac{1}{2} \times \dfrac{8}{3}$ (b) $\dfrac{4}{7} \times \dfrac{2}{5}$ (c) $\dfrac{5}{3} \times \dfrac{2}{7}$ (d) $\dfrac{3}{7} \times \dfrac{1}{5}$

(e) $\dfrac{1}{8} \times \dfrac{1}{9}$ (f) $\dfrac{7}{5} \times \dfrac{2}{3}$ (g) $\dfrac{3}{5} \times \dfrac{1}{2}$ (h) $\dfrac{7}{8} : \dfrac{4}{7}$

(i) $\dfrac{18}{4} : \dfrac{6}{5}$ (j) $\dfrac{25}{4} : \dfrac{2}{5}$ (k) $\dfrac{1}{2} : \dfrac{3}{4}$ (l) $\dfrac{9}{7} : \dfrac{8}{3}$

(m) $\dfrac{2}{5} : \dfrac{3}{2}$ (n) $\dfrac{17}{4} : \dfrac{46}{13}$ (o) $\dfrac{4}{3} \times \dfrac{1}{2} \times \dfrac{2}{5}$ (p) $5 \times \dfrac{3}{4} \times \dfrac{5}{3}$

(q) $\dfrac{1}{2} \times \dfrac{3}{7} : \dfrac{1}{5}$ (r) $\dfrac{3}{2} : \dfrac{5}{8} \times \dfrac{1}{4}$ (s) $\dfrac{5}{4} : 3 : \dfrac{4}{7}$ (t) $\dfrac{5}{2} : \dfrac{7}{2} \times \dfrac{3}{8}$

3. A Ana está a ler um livro. Num dia ela leu $\dfrac{1}{4}$ do livro e no dia seguinte leu $\dfrac{1}{6}$ do livro. Indique:

(a) a fração do livro que ela já leu;

(b) a fração do livro que falta para ela terminar a leitura.

4. Com 12 litros de leite, quantas garrafas de $\dfrac{2}{3}$ de litro poderão ser cheias?

5. Uma peça de tecido com 36 metros, após a lavagem, perdeu $\dfrac{1}{10}$ do seu comprimento. Qual o seu comprimento, em centímetros, após a lavagem?

6. Calcule:

(a) $\left(\dfrac{1}{4}+\dfrac{1}{3}\right)-\left(\dfrac{1}{6}-\dfrac{1}{8}\right)$

(b) $\dfrac{3}{4}+\left(\dfrac{1}{2}-\dfrac{1}{4}\right)$

(c) $\dfrac{5}{4}-\left(\dfrac{1}{2}+\dfrac{3}{4}\right)$

(d) $\left(\dfrac{6}{4}-\dfrac{1}{2}\right)+\left(\dfrac{5}{6}+\dfrac{1}{3}\right)$

(e) $\left(\dfrac{2}{3}-\dfrac{1}{6}\right)+\left(\dfrac{1}{4}-\dfrac{2}{8}\right)$

(f) $\left(1+\dfrac{1}{2}\right)-\left(1+\dfrac{1}{4}\right)$

(g) $\dfrac{2}{3}:(-2)+\dfrac{4}{3}\times\left(-\dfrac{3}{8}\right)-\dfrac{1}{4}:\left(-\dfrac{3}{2}\right)$

(h) $\dfrac{1-\dfrac{1}{2}}{\dfrac{3}{4}}+\dfrac{\dfrac{1}{5}}{1-\dfrac{4}{5}}$

(i) $\dfrac{4}{3}+\dfrac{7}{5}\times\left(\dfrac{1}{2}+\dfrac{4}{9}\right)-\dfrac{1}{5}$

(j) $\dfrac{\dfrac{1}{2}+\dfrac{3}{5}+1}{\dfrac{7}{3}-\dfrac{3}{7}+9}$

(k) $5-\left(4+2\times\left(32-\dfrac{1}{4}\times\left(\dfrac{4}{6}-\dfrac{1}{8}\right)+2\right)+16\right)$

(l) $3\times\left(-1+12\times\left(-13+4\times\left(1-\dfrac{1}{3}\right)-1\right)-1\right)$

1. (a) $\frac{5}{6}$;   (b) 2;   (c) $\frac{3}{7}$;   (d) $\frac{7}{10}$;   (e) $\frac{17}{8}$;   (f) $\frac{5}{3}$;   (g) $\frac{37}{30}$;   (h) $\frac{61}{28}$;   (i) $\frac{41}{45}$;

(j) $-\frac{19}{8}$;   (k) $\frac{17}{21}$;   (l) $\frac{11}{10}$;   (m) $\frac{57}{18}$;   (n) $-\frac{22}{45}$;   (o) $\frac{299}{42}$;   (p) $\frac{137}{24}$;   (q) $\frac{167}{35}$;

(r) $\frac{391}{140}$;   (s) $\frac{101}{28}$;   (t) $-\frac{95}{24}$;   (u) $-\frac{153}{35}$;   (v) $\frac{239}{140}$;   (w) $-\frac{229}{42}$;   (x) $-\frac{59}{28}$.

2. (a) $\frac{4}{3}$;   (b) $\frac{8}{35}$;   (c) $\frac{10}{21}$;   (d) $\frac{3}{35}$;   (e) $\frac{1}{72}$;   (f) $\frac{14}{15}$;   (g) $\frac{3}{10}$;   (h) $\frac{49}{32}$;   (i) $\frac{15}{4}$;

(j) $\frac{125}{8}$;   (k) $\frac{2}{3}$;   (l) $\frac{27}{56}$;   (m) $\frac{4}{15}$;   (n) $\frac{221}{184}$;   (o) $\frac{4}{15}$;   (p) $\frac{25}{4}$;   (q) $\frac{15}{14}$;   (r) $\frac{3}{5}$;

(s) $\frac{35}{48}$;   (t) $\frac{15}{56}$.

3. (a) $\frac{5}{12}$;   (b) $\frac{7}{12}$.

4. 18 garrafas.

5. 3240 cm.

6. (a) $\frac{13}{24}$;   (b) 1;   (c) 0;   (d) $\frac{13}{6}$;   (e) $\frac{1}{2}$;   (f) $\frac{1}{4}$;   (g) $-\frac{2}{3}$;   (h) $\frac{5}{3}$;   (i) $\frac{221}{90}$;

(j) $\frac{441}{2290}$;   (k) $-\frac{3971}{48}$;   (l) -414.