

**FRACTIONS - PRACTICE QUESTIONS
NON-CALCULATOR**



metatutor

1.

Fully simplify each fraction:

$$(a) \frac{5}{10} = \frac{1}{2}$$

$$(b) \frac{3}{9} = \frac{1}{3}$$

$$(c) \frac{2}{8} = \frac{1}{4}$$

$$(d) \frac{30}{70} = \frac{3}{7}$$

$$(e) \frac{25}{30} = \frac{5}{6}$$

$$(f) \frac{20}{32} = \frac{5}{8}$$

$$(g) \frac{12}{36} = \frac{1}{3}$$

$$(h) \frac{15}{27} = \frac{5}{9}$$

$$(i) \frac{22}{55} = \frac{2}{5}$$

$$(j) \frac{24}{60} = \frac{2}{5}$$

$$(k) \frac{16}{100} = \frac{4}{25}$$

$$(l) \frac{24}{120} = \frac{1}{5}$$

$$(m) \frac{200}{2000} = \frac{1}{10}$$

$$(n) \frac{900}{30000} = \frac{9}{300} = \frac{3}{100}$$

2.

Work out:

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

$$(b) \frac{1}{5} + \frac{1}{5} + \frac{1}{5} = \frac{3}{5}$$

$$(c) \frac{1}{9} + \frac{4}{9} = \frac{5}{9}$$

$$(d) \frac{3}{11} + \frac{5}{11} = \frac{8}{11}$$

$$(e) \frac{8}{9} - \frac{1}{9} = \frac{7}{9}$$

$$(f) \frac{7}{13} - \frac{4}{13} = \frac{3}{13}$$

$$(g) \frac{10}{21} - \frac{6}{21} = \frac{4}{21}$$

3.

Work out, fully simplifying your answers:

$$(a) \frac{1}{4} + \frac{1}{2} = \frac{1}{4} + \frac{2}{4} = \frac{3}{4}$$

$$(b) \frac{2}{5} + \frac{1}{10} = \frac{4}{10} + \frac{1}{10} = \frac{5}{10} = \frac{1}{2}$$

$$(c) \frac{5}{12} + \frac{1}{4} = \frac{5}{12} + \frac{3}{12} = \frac{8}{12} = \frac{2}{3}$$

$$(d) \frac{7}{20} + \frac{2}{5} = \frac{7}{20} + \frac{8}{20} = \frac{15}{20} = \frac{3}{4}$$

$$(e) \frac{3}{4} - \frac{7}{16} = \frac{12}{16} - \frac{7}{16} = \frac{5}{16}$$

$$(f) \frac{13}{18} - \frac{1}{6} = \frac{13}{18} - \frac{3}{18} = \frac{10}{18} = \frac{5}{9}$$

$$(g) \frac{17}{24} - \frac{1}{4} = \frac{17}{24} - \frac{6}{24} = \frac{11}{24}$$

$$(h) \frac{2}{7} + \frac{20}{49} = \frac{14}{49} + \frac{20}{49} = \frac{34}{49}$$

4.

Work out:

$$(a) \frac{1}{4} + \frac{1}{3} = \frac{3}{12} + \frac{4}{12} = \frac{7}{12}$$

$$(b) \frac{2}{5} + \frac{1}{6} = \frac{12}{30} + \frac{5}{30} = \frac{17}{30}$$

$$(c) \frac{3}{7} + \frac{1}{8} = \frac{24}{56} + \frac{7}{56} = \frac{31}{56}$$

$$(d) \frac{4}{9} + \frac{2}{5} = \frac{20}{45} + \frac{18}{45} = \frac{38}{45}$$

$$(e) \frac{3}{10} + \frac{3}{7} = \frac{21}{70} + \frac{30}{70} = \frac{51}{70}$$

$$(f) \frac{5}{8} + \frac{3}{11} = \frac{55}{88} + \frac{24}{88} = \frac{79}{88}$$

$$(g) \frac{3}{4} + \frac{2}{9} = \frac{27}{36} + \frac{8}{36} = \frac{35}{36}$$

$$(h) \frac{4}{5} - \frac{1}{4} = \frac{16}{20} - \frac{5}{20} = \frac{11}{20}$$

$$(i) \frac{7}{8} - \frac{1}{3} = \frac{21}{24} - \frac{8}{24} = \frac{13}{24}$$

$$(j) \frac{5}{12} - \frac{1}{5} = \frac{25}{60} - \frac{12}{60} = \frac{13}{60}$$

$$(k) \frac{9}{11} - \frac{4}{7} = \frac{63}{77} - \frac{44}{77} = \frac{19}{77}$$

$$(l) \frac{8}{9} - \frac{3}{4} = \frac{32}{36} - \frac{27}{36} = \frac{5}{36}$$

5.

Work out, fully simplifying your answers:

$$(a) \frac{1}{4} \times \frac{1}{3} = \frac{1}{12}$$

$$(b) \frac{3}{10} \times \frac{1}{5} = \frac{3}{50}$$

$$(c) \frac{5}{7} \times \frac{2}{3} = \frac{10}{21}$$

$$(d) \frac{3}{8} \times \frac{4}{5} = \frac{12}{40} = \frac{3}{10}$$

$$(e) \frac{5}{6} \times \frac{2}{3} = \frac{10}{18} = \frac{5}{9}$$

$$(f) \frac{3}{4} \times \frac{5}{12} = \frac{15}{48} = \frac{5}{16}$$

$$(g) \frac{2}{9} \times \frac{6}{5} = \frac{12}{45} = \frac{4}{15}$$

$$(h) \frac{7}{12} \times \frac{3}{5} = \frac{21}{60} = \frac{7}{20}$$

6.

Work out, fully simplifying your answers:

$$(a) \frac{1}{5} \div \frac{2}{3} = \frac{1}{5} \times \frac{3}{2} = \frac{3}{10}$$

$$(b) \frac{4}{11} \div \frac{1}{2} = \frac{4}{11} \times \frac{2}{1} = \frac{8}{11}$$

$$(c) \frac{5}{7} \div \frac{4}{3} = \frac{5}{7} \times \frac{3}{4} = \frac{15}{28}$$

$$(d) \frac{3}{8} \div \frac{4}{5} = \frac{3}{8} \times \frac{5}{4} = \frac{15}{32}$$

$$(e) \frac{2}{3} \div \frac{6}{7} = \frac{2}{3} \times \frac{7}{6} = \frac{14}{18} = \frac{7}{9}$$

$$(f) \frac{5}{9} \div \frac{5}{6} = \frac{5}{9} \times \frac{6}{5} = \frac{30}{45} = \frac{2}{3}$$

$$(g) \frac{2}{9} \div \frac{4}{3} = \frac{2}{9} \times \frac{3}{4} = \frac{6}{36} = \frac{1}{6}$$

$$(h) \frac{9}{20} \div \frac{3}{4} = \frac{9}{20} \times \frac{4}{3} = \frac{36}{60} = \frac{3}{5}$$

7.

Work out, fully simplifying your answers:

$$(a) \frac{2}{5} + \frac{2}{9} = \frac{18}{45} + \frac{10}{45} = \frac{28}{45}$$

$$(b) \frac{3}{8} \times \frac{3}{2} = \frac{9}{16}$$

$$(c) \frac{9}{10} - \frac{3}{4} = \frac{36}{40} - \frac{30}{40} = \frac{6}{40} = \frac{3}{20}$$

$$(d) \frac{4}{9} \div \frac{5}{6} = \frac{4}{9} \times \frac{6}{5} = \frac{24}{45} = \frac{8}{15}$$

$$(e) \frac{3}{11} \times \frac{8}{5} = \frac{24}{55}$$

$$(f) \frac{10}{9} - \frac{1}{3} = \frac{30}{27} - \frac{9}{27} = \frac{21}{27} = \frac{7}{9}$$

$$(g) \frac{8}{11} \div \frac{4}{3} = \frac{8}{11} \times \frac{3}{4} = \frac{24}{44} = \frac{6}{11}$$

$$(h) \frac{5}{12} + \frac{1}{2} = \frac{5}{12} + \frac{6}{12} = \frac{11}{12}$$

$$(i) \frac{13}{9} - \frac{1}{2} = \frac{26}{18} - \frac{9}{18} = \frac{17}{18}$$

$$(j) \frac{4}{7} \times \frac{3}{8} = \frac{12}{56} = \frac{6}{28} = \frac{3}{14}$$

$$(k) \frac{11}{20} + \frac{2}{5} = \frac{11}{20} + \frac{8}{20} = \frac{19}{20}$$

$$(l) \frac{14}{15} - \frac{1}{4} = \frac{56}{60} - \frac{15}{60} = \frac{41}{60}$$

8.

(a) Find $\frac{1}{4}$ of 48.

$$\frac{1}{4} \times \frac{48}{1} = \frac{48}{4} = \textcircled{12}$$

(b) Find $\frac{1}{3}$ of 45.

$$\frac{1}{3} \times \frac{45}{1} = \frac{45}{3} = \textcircled{15}$$

(c) Find $\frac{3}{5}$ of 55.

$$\frac{3}{5} \times \frac{55}{1} = \textcircled{33}$$

(d) Find $\frac{5}{6}$ of 78.

$$\frac{5}{6} \times \frac{78}{1} = \textcircled{65}$$

(e) Find $\frac{4}{9}$ of 108.

$$\frac{4}{9} \times \frac{108}{1} = \textcircled{48}$$

(f) Find $\frac{5}{8}$ of 112.

$$\frac{5}{8} \times \frac{112}{1} = \textcircled{70}$$

(g) Find $\frac{3}{7}$ of 371.

$$\frac{3}{7} \times \frac{371}{1} = 3 \times 53 = \textcircled{159}$$

$$\begin{array}{r} 053 \\ 7 \overline{) 371} \end{array}$$

(h) Find $\frac{5}{9}$ of 414.

$$\frac{5}{9} \times \frac{414}{1} = 5 \times 46 = \textcircled{230}$$

$$\begin{array}{r} 046 \\ 9 \overline{) 414} \\ \times 5 \\ \hline 230 \end{array}$$

9.

Work out, fully simplifying your answers:

$$(a) 5 \times \frac{1}{6} = \frac{5}{6}$$

$$(b) \frac{3}{11} \times 3 = \frac{9}{11}$$

$$(c) \frac{3}{10} \times 2 = \frac{6}{10} = \frac{3}{5}$$

$$(d) \frac{6}{35} \times 5 = \frac{6 \times 5}{35} = \frac{30}{35} = \frac{6}{7}$$

$$(e) \frac{9}{80} \times 4 = \frac{9 \times 4}{80} = \frac{36}{80} = \frac{9}{20}$$

$$(f) \frac{11}{100} \times 8 = \frac{11 \times 8}{100} = \frac{88}{100} = \frac{22}{25}$$

10.

Work out, fully simplifying your answers:

$$(a) \frac{1}{4} \div 2 = \frac{1}{4} \div \frac{2}{1} = \frac{1}{4} \times \frac{1}{2} = \frac{1}{8}$$

$$(b) \frac{3}{5} \div 3 = \frac{3}{5} \div \frac{3}{1} = \frac{3}{5} \times \frac{1}{3} = \frac{3}{15} = \frac{1}{5}$$

$$(c) \frac{3}{8} \div 6 = \frac{3}{8} \div \frac{6}{1} = \frac{3}{8} \times \frac{1}{6} = \frac{3}{48} = \frac{1}{16}$$

$$(d) \frac{8}{9} \div 4 = \frac{8}{9} \div \frac{4}{1} = \frac{8}{9} \times \frac{1}{4} = \frac{8}{36} = \frac{2}{9}$$

$$(e) \frac{7}{12} \div 2 = \frac{7}{12} \div \frac{2}{1} = \frac{7}{12} \times \frac{1}{2} = \frac{7}{24}$$

$$(f) \frac{12}{13} \div 6 = \frac{12}{13} \div \frac{6}{1} = \frac{12}{13} \times \frac{1}{6} = \frac{2}{13}$$

11.

(a) $\frac{3}{5}$ of a number is 45. What is the number?

$$\frac{45}{1} \div \frac{3}{5} = \frac{45}{1} \times \frac{5}{3} = 75$$

(b) $\frac{5}{8}$ of a number is 40. What is the number?

$$\frac{40}{1} \div \frac{5}{8} = \frac{40}{1} \times \frac{8}{5} = 64$$

(c) $\frac{4}{9}$ of a number is 72. What is the number?

$$\frac{72}{1} \div \frac{4}{9} = \frac{72}{1} \times \frac{9}{4} = 24 \times 9 = 216$$

(d) $\frac{7}{10}$ of a number is 98. What is the number?

$$\frac{98}{1} \div \frac{7}{10} = \frac{98}{1} \times \frac{10}{7} = \frac{980}{7} = 140$$

$$\frac{140}{7} = 20$$

(e) $\frac{8}{11}$ of a number is 64. What is the number?

$$\frac{64}{1} \div \frac{8}{11} = \frac{64}{1} \times \frac{11}{8} = 88$$

(f) $\frac{9}{20}$ of a number is 135. What is the number?

$$\frac{135}{1} \div \frac{9}{20} = \frac{135}{1} \times \frac{20}{9} = 300$$

(g) $\frac{7}{12}$ of a number is 105. What is the number?

$$\frac{105}{1} \div \frac{7}{12} = \frac{105}{1} \times \frac{12}{7} = 180$$

12.

Work out, fully simplifying your answers:

$$(a) \frac{13}{9} - \frac{2}{3} = \frac{39}{27} - \frac{18}{27} = \frac{21}{27} = \frac{7}{9}$$

$$(b) \frac{7}{10} \times \frac{4}{5} = \frac{28}{50} = \frac{14}{25}$$

$$(c) \frac{3}{4} + \frac{2}{9} = \frac{27}{36} + \frac{8}{36} = \frac{35}{36}$$

$$(d) \frac{6}{11} \div 3 = \frac{6}{11} \div \frac{3}{1} = \frac{6}{11} \times \frac{1}{3} = \frac{6}{33} = \frac{2}{11}$$

$$(e) \frac{7}{12} + \frac{1}{4} = \frac{7}{12} + \frac{3}{12} = \frac{10}{12} = \frac{5}{6}$$

$$(f) \frac{9}{10} \div \frac{4}{3} = \frac{9}{10} \times \frac{3}{4} = \frac{27}{40}$$

$$(g) \frac{3}{7} \times 14 = \frac{3}{7} \times \frac{14}{1} = \frac{42}{7} = 6$$

$$(h) \frac{7}{9} - \frac{3}{5} = \frac{35}{45} - \frac{27}{45} = \frac{8}{45}$$

$$(i) \frac{3}{5} \times \frac{4}{10} = \frac{12}{50} = \frac{6}{25}$$

$$(j) \frac{11}{24} + \frac{3}{8} = \frac{11}{24} + \frac{9}{24} = \frac{20}{24} = \frac{5}{6}$$

$$(k) \frac{9}{16} \div \frac{3}{2} = \frac{9}{16} \times \frac{2}{3} = \frac{18}{48} = \frac{3}{8}$$

$$(l) 1 - \frac{2}{9} = \frac{9}{9} - \frac{2}{9} = \frac{7}{9}$$

13.

Work out, fully simplifying your answers:

$$(a) \frac{2}{9} + \frac{4}{9} = \frac{6}{9} = \frac{2}{3}$$

$$(b) \frac{5}{12} \times \frac{3}{8} = \frac{15}{96} = \frac{5}{32}$$

$$(c) \frac{16}{15} \div 4 = \frac{16}{15} \div \frac{4}{1} = \frac{16}{15} \times \frac{1}{4} = \frac{16}{60} = \frac{4}{15}$$

$$(d) \frac{4}{11} + \frac{1}{4} = \frac{16}{44} + \frac{11}{44} = \frac{27}{44}$$

$$(e) \frac{9}{10} - \frac{5}{8} = \frac{72}{80} - \frac{50}{80} = \frac{22}{80} = \frac{11}{40}$$

$$(f) 20 \times \frac{1}{50} = \frac{20}{50} = \frac{2}{5}$$

$$(g) \frac{5}{7} + \frac{2}{11} = \frac{55}{77} + \frac{14}{77} = \frac{69}{77}$$

$$(h) \frac{10}{13} \times \frac{3}{5} = \frac{30}{65} = \frac{6}{13}$$

$$(i) \frac{3}{5} - \frac{7}{12} = \frac{36}{60} - \frac{35}{60} = \frac{1}{60}$$

$$(j) \frac{7}{9} \div \frac{4}{3} = \frac{7}{9} \times \frac{3}{4} = \frac{21}{36} = \frac{7}{12}$$

$$(k) \frac{9}{19} \div \frac{3}{2} = \frac{9}{19} \times \frac{2}{3} = \frac{18}{57} = \frac{6}{19}$$

$$(l) \frac{1}{3} + \frac{1}{4} + \frac{2}{11} = \frac{4}{12} + \frac{3}{12} = \frac{7}{12} + \frac{2}{11} = \frac{77}{132} + \frac{24}{132} \\ = \frac{101}{132}$$