

**MIXED NUMBERS/IMPROPER FRACTIONS - PRACTICE QUESTIONS
NON-CALCULATOR**



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1.

Convert each improper fraction into a mixed number:

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

$$(b) \frac{7}{3} = 2 \frac{1}{3}$$

$$(c) \frac{15}{4} = 3 \frac{3}{4}$$

$$(d) \frac{20}{3} = 6 \frac{2}{3}$$

$$(e) \frac{23}{10} = 2 \frac{3}{10}$$

$$(f) \frac{21}{8} = 2 \frac{5}{8}$$

$$(g) \frac{27}{5} = 5 \frac{2}{5}$$

$$(h) \frac{30}{7} = 4 \frac{2}{7}$$

$$(i) \frac{31}{9} = 3 \frac{4}{9}$$

$$(j) \frac{26}{3} = 8 \frac{2}{3}$$

$$(k) \frac{40}{11} = 3 \frac{7}{11}$$

$$(l) \frac{403}{100} = 4 \frac{3}{100}$$

$$(m) \frac{65}{12} = 5 \frac{5}{12}$$

$$(n) \frac{71}{20} = 3 \frac{11}{20}$$

2.

Convert each mixed number into an improper fraction:

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

$$(b) 2\frac{1}{4} = \frac{9}{4}$$

$$(c) 3\frac{2}{5} = \frac{17}{5}$$

$$(d) 4\frac{3}{4} = \frac{19}{4}$$

$$(e) 6\frac{3}{5} = \frac{33}{5}$$

$$(f) 3\frac{5}{6} = \frac{23}{6}$$

$$(g) 4\frac{2}{7} = \frac{30}{7}$$

$$(h) 10\frac{1}{3} = \frac{31}{3}$$

$$(i) 7\frac{4}{5} = \frac{39}{5}$$

$$(j) 8\frac{5}{6} = \frac{53}{6}$$

$$(k) 2\frac{7}{11} = \frac{29}{11}$$

$$(l) 9\frac{2}{7} = \frac{65}{7}$$

$$(m) 12\frac{3}{4} = \frac{51}{4}$$

$$(n) 5\frac{5}{8} = \frac{45}{8}$$

3.

Work out, giving your answer as a fully simplified mixed number:

$$(a) 1\frac{1}{4} + \frac{2}{3} = \frac{5}{4} + \frac{2}{3} = \frac{15}{12} + \frac{8}{12} = \frac{23}{12} = 1\frac{11}{12}$$

$$(b) \frac{7}{8} + 1\frac{1}{3} = \frac{7}{8} + \frac{4}{3} = \frac{21}{24} + \frac{32}{24} = \frac{53}{24} = 2\frac{5}{24}$$

$$(c) 1\frac{2}{7} + 2\frac{1}{2} = \frac{9}{7} + \frac{5}{2} = \frac{18}{14} + \frac{35}{14} = \frac{53}{14} = 3\frac{11}{14}$$

$$(d) 3\frac{2}{3} + 1\frac{1}{5} = \frac{11}{3} + \frac{6}{5} = \frac{55}{15} + \frac{18}{15} = \frac{73}{15} = 4\frac{13}{15}$$

$$(e) 3\frac{1}{2} + 2\frac{2}{5} = \frac{7}{2} + \frac{12}{5} = \frac{35}{10} + \frac{24}{10} = \frac{59}{10} = 5\frac{9}{10}$$

$$(f) 1\frac{3}{7} + 2\frac{2}{3} = \frac{10}{7} + \frac{8}{3} = \frac{30}{21} + \frac{56}{21} = \frac{86}{21} = 4\frac{2}{21}$$

$$(g) 3\frac{1}{3} + 2\frac{3}{4} = \frac{10}{3} + \frac{11}{4} = \frac{40}{12} + \frac{33}{12} = \frac{73}{12} = 6\frac{1}{12}$$

$$(h) 6\frac{2}{3} + 1\frac{3}{4} = \frac{20}{3} + \frac{7}{4} = \frac{80}{12} + \frac{21}{12} = \frac{101}{12} = 8\frac{5}{12}$$

4.

Work out, giving your answer as a fully simplified mixed number:

$$(a) 3\frac{1}{2} - \frac{5}{8} = \frac{7}{2} - \frac{5}{8} = \frac{28}{8} - \frac{5}{8} = \frac{23}{8} = 2\frac{7}{8}$$

$$(b) 2\frac{2}{5} - \frac{3}{4} = \frac{12}{5} - \frac{3}{4} = \frac{48}{20} - \frac{15}{20} = \frac{33}{20} = 1\frac{13}{20}$$

$$(c) 4\frac{1}{6} - 2\frac{1}{2} = \frac{25}{6} - \frac{5}{2} = \frac{25}{6} - \frac{15}{6} = \frac{10}{6} = \frac{5}{3} = 1\frac{2}{3}$$

$$(d) 2\frac{1}{4} - \frac{7}{10} = \frac{9}{4} - \frac{7}{10} = \frac{45}{20} - \frac{14}{20} = \frac{31}{20} = 1\frac{11}{20}$$

$$(e) 3\frac{1}{3} - 1\frac{2}{5} = \frac{10}{3} - \frac{7}{5} = \frac{50}{15} - \frac{21}{15} = \frac{29}{15} = 1\frac{14}{15}$$

$$(f) 4\frac{1}{6} - 1\frac{1}{4} = \frac{25}{6} - \frac{5}{4} = \frac{50}{12} - \frac{15}{12} = \frac{35}{12} = 2\frac{11}{12}$$

$$(g) 3\frac{2}{3} - 1\frac{3}{4} = \frac{11}{3} - \frac{7}{4} = \frac{44}{12} - \frac{21}{12} = \frac{23}{12} = 1\frac{11}{12}$$

$$(h) 4\frac{1}{8} - 2\frac{2}{3} = \frac{33}{8} - \frac{8}{3} = \frac{99}{24} - \frac{64}{24} = \frac{35}{24} = 1\frac{11}{24}$$

5.

Work out, giving your answer as a fully simplified mixed number:

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

$$(b) 1\frac{3}{4} \times 2\frac{1}{3} = \frac{7}{4} \times \frac{7}{3} = \frac{49}{12} = 4\frac{1}{12}$$

$$(c) 3\frac{1}{2} \times 2\frac{2}{5} = \frac{7}{2} \times \frac{12}{5} = \frac{42}{5} = 8\frac{2}{5}$$

$$(d) 3\frac{1}{3} \times 2\frac{2}{3} = \frac{10}{3} \times \frac{8}{3} = \frac{80}{9} = 8\frac{8}{9}$$

$$(e) 2\frac{1}{5} \times 1\frac{1}{3} = \frac{11}{5} \times \frac{4}{3} = \frac{44}{15} = 2\frac{14}{15}$$

$$(f) 4\frac{2}{3} \times 1\frac{1}{4} = \frac{14}{3} \times \frac{5}{4} = \frac{35}{6} = 5\frac{5}{6}$$

$$(g) 6\frac{1}{4} \times 1\frac{2}{3} = \frac{25}{4} \times \frac{5}{3} = \frac{125}{12} = 10\frac{5}{12}$$

$$(h) 3\frac{3}{10} \times 2\frac{2}{3} = \frac{33}{10} \times \frac{8}{3} = \frac{44}{5} = 8\frac{4}{5}$$

6.

Work out, giving your answer as a fully simplified mixed number:

$$(a) 2\frac{2}{5} \div 1\frac{1}{2} = \frac{12}{5} \div \frac{3}{2} = \frac{12}{5} \times \frac{2}{3} = \frac{8}{5} = 1\frac{3}{5}$$

$$(b) 3\frac{1}{4} \div 1\frac{1}{3} = \frac{13}{4} \div \frac{4}{3} = \frac{13}{4} \times \frac{3}{4} = \frac{39}{16} = 2\frac{7}{16}$$

$$(c) 4\frac{1}{2} \div 1\frac{3}{4} = \frac{9}{2} \div \frac{7}{4} = \frac{9}{2} \times \frac{4}{7} = \frac{18}{7} = 2\frac{4}{7}$$

$$(d) 3\frac{1}{3} \div 1\frac{1}{10} = \frac{10}{3} \div \frac{11}{10} = \frac{10}{3} \times \frac{10}{11} = \frac{100}{33} = 3\frac{1}{33}$$

$$(e) 6\frac{2}{3} \div 2\frac{2}{5} = \frac{20}{3} \div \frac{12}{5} = \frac{20}{3} \times \frac{5}{12} = \frac{25}{9} = 2\frac{7}{9}$$

$$(f) 7\frac{1}{2} \div 3\frac{1}{3} = \frac{15}{2} \div \frac{10}{3} = \frac{15}{2} \times \frac{3}{10} = \frac{9}{4} = 2\frac{1}{4}$$

$$(g) 7\frac{1}{7} \div 3\frac{1}{8} = \frac{50}{7} \div \frac{25}{8} = \frac{50}{7} \times \frac{8}{25} = \frac{16}{7} = 2\frac{2}{7}$$

$$(h) 4\frac{2}{7} \div 2\frac{2}{9} = \frac{30}{7} \div \frac{20}{9} = \frac{30}{7} \times \frac{9}{20} = \frac{27}{14} = 1\frac{13}{14}$$

7.

Work out:

$$(a) 1\frac{1}{2} \times 20 = \frac{3}{2} \times \frac{20}{1} = \frac{60}{2} = \textcircled{30}$$

$$(b) 2\frac{2}{3} \times 9 = \frac{8}{3} \times \frac{9}{1} = \textcircled{24}$$

$$(c) 21 \times 1\frac{3}{7} = \frac{21^3}{1} \times \frac{10}{7} = \textcircled{30}$$

$$(d) 25 \times 2\frac{2}{5} = \frac{25^5}{1} \times \frac{12}{5} = \textcircled{60}$$

$$(e) 18 \div 1\frac{1}{2} = \frac{18}{1} \div \frac{3}{2} = \frac{18^6}{1} \times \frac{2}{3} = \textcircled{12}$$

$$(f) 25 \div 1\frac{2}{3} = \frac{25}{1} \div \frac{5}{3} = \frac{25^5}{1} \times \frac{3}{5} = \textcircled{15}$$

$$(g) 35 \div 3\frac{1}{2} = \frac{35}{1} \div \frac{7}{2} = \frac{35^5}{1} \times \frac{2}{7} = \textcircled{10}$$

$$(h) 110 \div 4\frac{2}{5} = \frac{110}{1} \div \frac{22}{5} = \frac{110^5}{1} \times \frac{5}{22} = \textcircled{25}$$

8.

Work out, giving your answer as a fully simplified mixed number:

$$(a) 2\frac{3}{4} + 1\frac{1}{3} = \frac{11}{4} + \frac{4}{3} = \frac{33}{12} + \frac{16}{12} = \frac{49}{12} = 4\frac{1}{12}$$

$$(b) 3\frac{1}{3} \times 1\frac{3}{8} = \frac{10}{3} \times \frac{11}{8} = \frac{55}{12} = 4\frac{7}{12}$$

$$(c) 5\frac{1}{3} - 2\frac{2}{5} = \frac{16}{3} - \frac{12}{5} = \frac{80}{15} - \frac{36}{15} = \frac{44}{15} = 2\frac{14}{15}$$

$$(d) 6\frac{3}{4} \div 1\frac{2}{7} = \frac{27}{4} \div \frac{9}{7} = \frac{27}{4} \times \frac{7}{9} = \frac{21}{4} = 5\frac{1}{4}$$

$$(e) 5\frac{1}{2} \times 2\frac{2}{5} = \frac{11}{2} \times \frac{12}{5} = \frac{66}{5} = 13\frac{1}{5}$$

$$(f) 3\frac{5}{6} + 2\frac{1}{2} = \frac{23}{6} + \frac{5}{2} = \frac{23}{6} + \frac{15}{6} = \frac{38}{6} = \frac{19}{3} = 6\frac{1}{3}$$

$$(g) 7\frac{1}{3} - 3\frac{1}{2} = \frac{22}{3} - \frac{7}{2} = \frac{44}{6} - \frac{21}{6} = \frac{23}{6} = 3\frac{5}{6}$$

$$(h) 3\frac{3}{5} \div 2\frac{1}{2} = \frac{18}{5} \div \frac{5}{2} = \frac{18}{5} \times \frac{2}{5} = \frac{36}{25} = 1\frac{11}{25}$$