

ADDING FRACTIONS

To add fractions with the **same denominator**, add the numerators. The denominator remains the same.

$$\frac{1}{5} + \frac{2}{5} = \frac{3}{5}$$

I. Solve the following.

$$a) \frac{3}{5} + \frac{1}{5} = \frac{4}{5}$$

$$b) \frac{3}{7} + \frac{2}{7} = \frac{5}{7}$$

$$c) \frac{7}{22} + \frac{8}{22} = \frac{15}{22}$$

$$d) \frac{9}{11} + \frac{1}{11} = \frac{10}{11}$$

To add fractions with **different denominators**, use the least common multiple of the denominators as the common denominator. Then, write equivalent fractions with this common denominator. Solve. Change to a mixed number if necessary.

$$\begin{array}{r} \frac{1}{4} + \frac{5}{6} = \frac{3}{12} + \frac{10}{12} \\ = \frac{13}{12} \\ = 1 \frac{1}{12} \end{array}$$

4, 8, 12
6, 12

II. Solve the following. Reduce answers to their lowest form.

$$a) \frac{7 \times 3 \times 21}{10 \times 3 \times 30} + \frac{1 \times 5}{6 \times 5 \times 30} = \frac{26 \times 2}{30} = \frac{13}{15}$$

LCM: 6, 20, 30, 24, 18, 12, 9, 6, 3

$$OR = \frac{3}{4}$$

$$b) \frac{1}{2} + \frac{3}{7} = \frac{13}{14}$$

$$d) \frac{3}{6} + \frac{2}{5} = \frac{9}{10}$$

$$e) \frac{2}{3} + \frac{6}{7} = \frac{32}{21} = 1 \frac{11}{21}$$

$$f) \frac{9}{10} + \frac{5}{12} = \frac{79}{60} = 1 \frac{19}{60}$$

$$g) \frac{1}{6} + \frac{3}{4} = \frac{11}{12}$$

$$h) \frac{8}{11} + \frac{1}{2} = \frac{27}{22} = 1 \frac{5}{22}$$

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*SPICY

To add mixed numbers, add the fractions and then add the whole numbers.

$$1\frac{1}{4} + 2\frac{1}{3} = 1\frac{3}{12} + 2\frac{4}{12}$$

$$= 3\frac{7}{12}$$

Sometimes, you will need to regroup your answer.

$$2\frac{1}{4} + 3\frac{5}{6} = 2\frac{3}{12} + 3\frac{10}{12}$$

$$= 5\frac{13}{12}$$

Improper fraction

$$= 6\frac{1}{12}$$

III. Solve the following. Reduce any answers to lowest form.

a) $5\frac{1}{12} + 4\frac{7}{12} = 9\frac{8}{12} = 9\frac{2}{3}$

b) $1\frac{1}{2} + 7\frac{1}{2} = 9$

c) $7\frac{2}{3} + 5\frac{2}{3} = 13\frac{4}{3} = 15\frac{1}{3}$

d) $3\frac{4}{8} + 4\frac{6}{8} = 8\frac{10}{8} = 9\frac{1}{2}$

e) $6\frac{7}{12} + 3\frac{8}{12} = 10\frac{15}{12} = 10\frac{5}{4} = 11\frac{1}{4}$

f) $2\frac{7}{10} + 4\frac{8}{10} = 7\frac{15}{10} = 7\frac{3}{2} = 8\frac{1}{2}$

g) $3\frac{1}{3} + 4\frac{1}{2} = 7\frac{5}{6}$

h) $2\frac{5}{6} + 1\frac{5}{8} = 4\frac{11}{24}$

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

$$2 + 1 = 3$$

$$\frac{5}{6} + \frac{5}{8} = \frac{20}{24} + \frac{15}{24} = \frac{35}{24} = 1\frac{11}{24}$$

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$$i) 7\frac{1}{3} + 5\frac{5}{4}$$

$$7+5=12$$

$$= \boxed{13\frac{3}{15}}$$

$$j) 1\frac{1}{7} + 4\frac{5}{6}$$

$$1+4=5$$

$$= \boxed{5\frac{41}{42}}$$

$$k) \frac{1}{3} + \frac{4}{5} + \frac{5}{12} + \frac{17}{15} = 1\frac{3}{15}$$

$$8\frac{2}{9} + 2\frac{7}{12} = 10\frac{29}{36}$$

$$= \boxed{10\frac{29}{36}}$$

$$l) \frac{1}{7} + \frac{5}{6} + \frac{6}{12} + \frac{35}{42} = \frac{41}{42}$$

$$9\frac{9}{12} + 6\frac{2}{3} = 15\frac{11}{12}$$

$$= \boxed{15\frac{11}{12}}$$

$$m) \frac{2}{9} + \frac{7}{12} + \frac{8}{36} + \frac{21}{36} = \frac{29}{36}$$

$$5\frac{1}{5} + 5\frac{1}{2} = 10\frac{13}{14}$$

$$= \boxed{10\frac{13}{14}}$$

$$n) 4\frac{1}{3} + 3\frac{4}{9} = 7\frac{7}{9}$$

$$4+3=7$$

$$= \boxed{7\frac{7}{9}}$$

$$o) 2\frac{1}{2} + 1\frac{13}{14} = 3\frac{2}{8}$$

$$2+1=3$$

$$= \boxed{3\frac{2}{8}}$$

$$p) 3\frac{2}{5} + 9\frac{2}{7} = 12\frac{24}{35}$$

$$3+9=12$$

$$= \boxed{12\frac{24}{35}}$$

$$q) \frac{1}{2} + \frac{3}{8} + \frac{4}{8} + \frac{3}{8} = \frac{7}{8}$$

$$7\frac{3}{4} + 8\frac{8}{12} = 16\frac{5}{12}$$

$$= \boxed{16\frac{5}{12}}$$

$$r) \frac{14}{37} + \frac{10}{37} + \frac{1}{2} = 3\frac{1}{2}$$

$$3+1=4$$

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

$$7+8=15$$

$$3+8=11$$

$$\frac{5}{4} + \frac{8}{12}$$

$$\frac{1}{2} + \frac{5}{6}$$

$$\frac{9}{12} + \frac{8}{12} = \frac{17}{12} = 1\frac{5}{12}$$

$$\frac{5}{6} + \frac{5}{6} = \frac{8}{6} = 1\frac{2}{6} = 1\frac{1}{3}$$