

**Exercise 2.2**

answers on p. 419

1. Simplify the following.

(a)  $\frac{3}{8} + \frac{1}{4}$

(b)  $\frac{2}{11} + \frac{5}{22}$

(c)  $\frac{1}{8} + \frac{5}{12} + \frac{7}{16}$

(d)  $\frac{4}{5} - \frac{8}{15}$

(e)  $\frac{17}{20} - \frac{8}{15}$

(f)  $\frac{9}{10} - \frac{5}{16} - \frac{7}{20}$

2. Simplify the following.

(a)  $\frac{5}{8} + \frac{1}{8} - \frac{3}{8}$

(b)  $\frac{7}{9} + \frac{1}{9} - \frac{5}{9}$

(c)  $\frac{4}{5} + \frac{3}{10} - \frac{8}{15}$

(d)  $\frac{7}{9} + \frac{2}{15} - \frac{29}{45}$

(e)  $\frac{3}{8} - \frac{3}{4} + \frac{11}{12}$

(f)  $\frac{4}{9} - \frac{7}{12} + \frac{23}{36}$

3. Simplify the following.

(a)  $\frac{12}{5} + \frac{17}{15}$

(b)  $\frac{7}{4} + \frac{9}{5}$

(c)  $\frac{11}{3} - \frac{12}{5}$

(d)  $\frac{17}{4} - \frac{13}{6}$

(e)  $\frac{33}{8} + \frac{25}{14}$

(f)  $\frac{31}{9} - \frac{19}{15}$

4. Evaluate the following.

(a)  $2\frac{2}{3} + 4\frac{3}{5}$

(b)  $3\frac{1}{3} - 1\frac{1}{5}$

(c)  $6\frac{1}{9} + 3\frac{8}{21}$

(d)  $2\frac{12}{17} + 4\frac{10}{34}$

(e)  $5\frac{8}{15} - 2\frac{8}{25}$

(f)  $9\frac{5}{14} - 4\frac{10}{21}$

5. Evaluate the following.

(a)  $3\frac{5}{6} + 1\frac{1}{2} - 2\frac{1}{4}$

(b)  $4\frac{3}{8} + 2\frac{5}{12} - 3\frac{1}{6}$

(c)  $5\frac{1}{2} - 2\frac{1}{3} + 1\frac{5}{6}$

(d)  $2\frac{7}{9} + 1\frac{2}{3} + 3\frac{5}{12}$

(e)  $6\frac{3}{8} - 2\frac{5}{6} - 2\frac{1}{4}$

(f)  $4\frac{3}{4} - 2\frac{1}{3} - 1\frac{3}{10}$

6. Evaluate the following.

(a)  $3\frac{17}{18} + \left(4\frac{5}{6} - 1\frac{7}{9}\right)$

(b)  $11\frac{7}{18} + \left(12\frac{5}{6} + 3\frac{7}{9}\right)$

(c)  $3\frac{11}{12} - \left(4\frac{7}{9} - 5\frac{3}{8}\right)$

(d)  $5\frac{8}{9} - \left(15\frac{13}{18} - 12\frac{5}{6}\right)$

(e)  $12\frac{5}{6} + \left(5\frac{8}{9} - 9\frac{13}{18}\right)$

(f)  $92\frac{8}{35} - \left(41\frac{3}{7} - 32\frac{17}{20}\right)$

1. Simplify the following.

(a)  $\frac{5}{6} \times 14$

(b)  $\frac{843}{100} \times 10$

(c)  $\frac{19}{12} \times \frac{3}{38}$

(d)  $\frac{105}{82} \times \frac{40}{7}$

(e)  $\frac{2}{3} \times \frac{4}{5} \times \frac{7}{4}$

(f)  $\frac{5}{4} \times \frac{12}{20} \times \frac{3}{7}$

2. Write down the reciprocal of each of the following.

(a)  $\frac{3}{5}$

(b)  $\frac{3}{8}$

(c)  $\frac{7}{8}$

(d)  $\frac{9}{10}$

(e) 5

(f) 10

(g)  $\frac{5}{3}$

(h) 1

3. Simplify the following.

(a)  $\frac{3}{5} \div 5$

(b)  $39 \div \frac{26}{7}$

(c)  $\frac{21}{12} \div \frac{19}{24}$

(d)  $\frac{32}{17} \div \frac{11}{51}$

(e)  $\frac{3}{4} \div \frac{5}{6} \div \frac{2}{15}$

(f)  $\frac{3}{23} \div \frac{2}{15} \div \frac{30}{115}$

4. Simplify the following.

(a)  $5\frac{1}{3} \times 5\frac{1}{4}$

(b)  $4\frac{4}{5} \times 4\frac{3}{8}$

(c)  $3\frac{3}{4} \times 1\frac{11}{15}$

(d)  $2\frac{1}{2} \div 1\frac{2}{3}$

(e)  $4\frac{2}{3} \div 11\frac{2}{3}$

(f)  $7\frac{7}{8} \div 2\frac{3}{4}$

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5. Evaluate the following.

(a)  $2\frac{1}{2} \times 3\frac{2}{5} \div \frac{4}{5}$

(b)  $3\frac{1}{7} \div 2\frac{3}{4} \times \frac{3}{8}$

(c)  $\frac{3}{4} \times \frac{5}{6} + 3 \times \frac{4}{3}$

(d)  $\frac{1}{6} \div \frac{3}{4} \div \left(\frac{3}{8} \div \frac{1}{4}\right)$

(e)  $\frac{7}{15} \div \frac{22}{12} \times \left(\frac{1}{6} + \frac{2}{3}\right)$

(f)  $\frac{4}{7} \div \frac{1}{14} \times 2\frac{1}{2} + \frac{5}{2}$

\*6. Evaluate the following.

(a)  $\frac{3 \times 4 - 8}{18 \times 14}$

(b)  $\frac{21 + 3^2}{18 \div 5}$

(c)  $\frac{2 \times 3 - 3 \div 5}{6 \times 7 \div 2}$

(d)  $\frac{4 \times 8 \div 2}{2 \times 5 - 3}$

(e)  $\frac{5^3 - 14 \times 3}{24 \div 6 - 3}$

(f)  $\frac{2 \times 3 - 1}{31 + 4 \times 3} - 2 \div \frac{3}{4}$

**MATHSTORY**