

جمع الكسور وطرحها

كتاب الطالب :

أجد ناتج كل مما يأتي في أبسط صورة:

$$(1) \frac{1}{2} + \frac{7}{9}$$

$$\frac{1 \times 9}{2 \times 9} + \frac{7 \times 2}{9 \times 2} = \frac{9}{18} + \frac{14}{18} = \frac{9 + 14}{18} = \frac{23}{18}$$

$$(2) \frac{19}{21} - \frac{5}{6}$$

$$\frac{19 \times 2}{21 \times 2} - \frac{5 \times 7}{6 \times 7} = \frac{38}{42} - \frac{35}{42} = \frac{38 - 35}{42} = \frac{3}{42}$$

$$(3) \frac{7}{12} - \frac{4}{9}$$

$$\frac{7 \times 3}{12 \times 3} - \frac{4 \times 4}{9 \times 4} = \frac{21}{36} - \frac{16}{36} = \frac{21 - 16}{36} = \frac{5}{36}$$

$$(4) \frac{3}{4} + \frac{3}{10}$$

$$\frac{3 \times 5}{4 \times 5} + \frac{3 \times 2}{10 \times 2} = \frac{15}{20} + \frac{6}{20} = \frac{15 + 6}{20} = \frac{21}{20} = 1 \frac{1}{20}$$

$$(5) \frac{11}{28} - \frac{3}{8}$$

$$\frac{11 \times 2}{28 \times 2} - \frac{3 \times 7}{8 \times 7} = \frac{22}{56} - \frac{21}{56} = \frac{22 - 21}{56} = \frac{1}{56}$$

$$(6) \frac{5}{6} + \frac{1}{4}$$

$$\frac{5 \times 2}{6 \times 2} + \frac{1 \times 3}{4 \times 3} = \frac{10}{12} + \frac{3}{12} = \frac{10 + 3}{12} = \frac{13}{12} = 1 \frac{1}{12}$$

جمع الأعداد الكسرية وطرحها

أجد ناتج كل ممّا يأتي في أبسط صورة:

$$(1) 1\frac{1}{6} + 2\frac{3}{8}$$

$$1\frac{1}{6} + 2\frac{3}{8} = 3\frac{13}{24}$$

$$(2) 2\frac{1}{14} - \frac{3}{4}$$

$$2\frac{1}{14} - \frac{3}{4} = 1\frac{9}{28}$$

$$(3) 32\frac{1}{2} - 15\frac{16}{17}$$

$$32\frac{1}{2} - 15\frac{16}{17} = 16\frac{19}{34}$$

$$(4) 9\frac{1}{8} + \frac{3}{10}$$

$$9\frac{1}{8} + \frac{3}{10} = 9\frac{17}{40}$$

$$(5) 3\frac{2}{9} - 2\frac{1}{12}$$

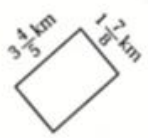
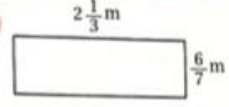
$$3\frac{2}{9} - 2\frac{1}{12} = 1\frac{5}{36}$$

$$(6) 20 - 8\frac{1}{3}$$

$$19\frac{3}{3} - 8\frac{1}{3} = 11\frac{2}{3}$$

ضرب الاعداد الكسرية
السؤال 9 + 10

أجد مساحة كل من المستطليين الآتيين:

9  10 

مساحة المستطيل = الطول × العرض

$$A = L \times W$$

$$A = 3\frac{4}{5} \times 1\frac{7}{8}$$

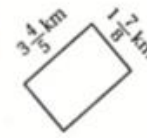
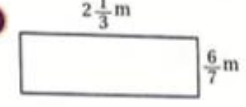
$$A = \frac{(5 \times 3) + 4}{5} \times \frac{(8 \times 1) + 7}{8}$$

$$A = \frac{15 + 4}{5} \times \frac{8 + 7}{8}$$

$$A = \frac{19}{5} \times \frac{15}{8} = \frac{19 \times 3}{1 \times 8} = \frac{57}{8} = 7\frac{1}{8} \text{ km}^2$$

الدرس 3 ضرب الأعداد الكسرية

أجد مساحة كل من المستطليين الآتيين:

9  10 

مساحة المستطيل = الطول × العرض

$$A = L \times W$$

$$A = 2\frac{1}{3} \times \frac{6}{7}$$

$$A = \frac{(3 \times 2) + 1}{3} \times \frac{6}{7}$$

$$A = \frac{6 + 1}{3} \times \frac{6}{7}$$

$$A = \frac{7}{3} \times \frac{6}{7} = 2 \text{ m}^2$$

$$\textcircled{1} \quad \begin{array}{l} 1 \xrightarrow{+3} \\ \swarrow 4 \end{array} \times \begin{array}{l} 5 \xrightarrow{+1} \\ \swarrow 7 \end{array} = \\ \frac{(4 \times 1) + 3}{4} \times \frac{(7 \times 5) + 1}{7} = \\ \frac{4 + 3}{4} \times \frac{35 + 1}{7} = \\ \frac{7}{4} \times \frac{36}{7} = \frac{9}{1} = 9$$

$$\textcircled{2} \quad \begin{array}{l} 5 \xrightarrow{+5} \\ \swarrow 12 \end{array} \times \begin{array}{l} 2 \xrightarrow{+5} \\ \swarrow 8 \end{array} = \\ \frac{5}{12} \times \frac{(8 \times 2) + 5}{8} = \\ \frac{5}{12} \times \frac{16 + 5}{8} = \\ \frac{5}{12} \times \frac{21}{8} = \frac{5 \times 7}{4 \times 8} = \frac{35}{32} = 1 \frac{3}{32}$$

$12 = 3 \times 4$
 $21 = 3 \times 7$

$$\textcircled{3} \quad \begin{array}{l} 7 \xrightarrow{+1} \\ \swarrow 5 \end{array} \times \frac{5}{8} = \\ \frac{(5 \times 7) + 1}{5} \times \frac{5}{8} = \\ \frac{35 + 1}{5} \times \frac{5}{8} = \\ \frac{36}{5} \times \frac{5}{8} = \frac{9 \times 1}{1 \times 2} = 4 \frac{1}{2}$$

$8 = 4 \times 2$
 $36 = 4 \times 9$

$$\textcircled{4} \quad \begin{array}{l} 1 \xrightarrow{+1} \\ \swarrow 2 \end{array} \times \begin{array}{l} 1 \xrightarrow{+1} \\ \swarrow 7 \end{array} = \\ \frac{(2 \times 3) + 1}{2} \times \frac{(7 \times 1) + 1}{7} = \\ \frac{6 + 1}{2} \times \frac{7 + 1}{7} = \\ \frac{7}{2} \times \frac{8}{7} = 4$$

$$\textcircled{5} \quad 10 \times \begin{array}{l} 8 \xrightarrow{+3} \\ \swarrow 8 \end{array} = \\ 10 \times \frac{(8 \times 8) + 3}{8} = \\ 10 \times \frac{64 + 3}{8} = \\ \frac{5}{1} \times \frac{67}{8} = \frac{5 \times 67}{4} = \frac{335}{4} = 83 \frac{3}{4}$$

$$\textcircled{6} \quad \begin{array}{l} 2 \xrightarrow{+5} \\ \swarrow 11 \end{array} \times 33 = \\ \frac{(1 \times 2) + 5}{11} \times 33 = \\ \frac{22 + 5}{11} \times 33 = \\ \frac{27}{11} \times 33 = 81$$

$$\textcircled{7} \quad \frac{5}{4} \times \frac{11}{32} = \frac{5 \times 11}{1 \times 4} = \frac{55}{4} = 13 \frac{3}{4}$$

$40 = 8 \times 5$
 $32 = 8 \times 4$

$$\textcircled{8} \quad \frac{1}{9} \times \begin{array}{l} 6 \\ 54 \\ 1 \end{array} = \frac{1 \times 6}{9 \times 1} = \frac{2}{3}$$

$81 = 9 \times 9$
 $54 = 9 \times 6$

قسمة الكسور و الاعداد الكسرية صفحة 60 + 64 :

$$\textcircled{1} \frac{1}{6} \div \frac{5}{12}$$

$$\frac{1}{6} \times \frac{12}{5} = \frac{1 \times 2}{1 \times 5} = \frac{2}{5}$$

$$\textcircled{3} \frac{15}{17} \div \frac{30}{12}$$

$$\frac{15}{17} \times \frac{1}{\frac{30}{2}} = \frac{1 \times 1}{17 \times 2} = \frac{1}{34}$$

$$\textcircled{4} 40 \div \frac{10}{13}$$

$$\frac{40}{1} \times \frac{13}{10} = \frac{4 \times 13}{1 \times 1} = \frac{52}{1} = 52$$

$$\textcircled{6} \frac{5}{18} \div \frac{31}{72}$$

$$\frac{5}{18} \times \frac{72}{31} = \frac{5 \times 4}{31} = \frac{20}{31}$$

$$\textcircled{7} \frac{29}{90} \div \frac{9}{70}$$

$$\frac{29}{90} \times \frac{70}{9} = \frac{29 \times 7}{9 \times 9} = \frac{203}{81} = 2 \frac{41}{81}$$

$\begin{array}{r} 81 \overline{) 203} \\ -162 \\ \hline 41 \end{array}$

$$\textcircled{1} 2 \frac{1}{6} \div \frac{13}{15}$$

$$\frac{6 \times 2 + 1}{6} \div \frac{13}{15}$$

$$\frac{13}{6} \times \frac{15}{13} = \frac{5}{2} = 2 \frac{1}{2}$$

$$\textcircled{3} 3 \frac{1}{7} \div 1 \frac{11}{9}$$

$$\frac{7 \times 3 + 1}{7} \div \frac{9 \times 1 + 11}{9}$$

$$\frac{22}{7} \div \frac{20}{9}$$

$$\frac{22}{7} \times \frac{9}{20} = \frac{99}{70} = 1 \frac{29}{70}$$

(4) $10 \xrightarrow{+2} \frac{2}{3} \div 8$
 $\swarrow \times 3$

$$\frac{3 \times 10 + 2}{3} \div 8$$

$$\frac{32}{3} \div \frac{8}{1}$$

$$^4 \frac{32}{3} \times \frac{1}{8} = \frac{4}{3} = 1 \frac{1}{3}$$

(6) $30 \xrightarrow{+2} \frac{2}{3} \div 1 \xrightarrow{+1} \frac{1}{3}$
 $\swarrow \times 3$

$$\frac{3 \times 30 + 2}{3} \div \frac{3 \times 1 + 1}{3}$$

$$\frac{90 + 2}{3} \div \frac{3 + 1}{3}$$

$$\frac{92}{3} \div \frac{4}{3}$$

$$^3 \frac{92}{3} \times \frac{3}{4} = 23$$

(3) $42 \div 2 \xrightarrow{+2} \frac{2}{13}$
 $\swarrow \times 13$

$$42 \div \frac{13 \times 2 + 2}{13}$$

$$42 \div \frac{26 + 2}{13}$$

$$42 \div \frac{28}{13}$$

$$^3 \frac{42}{1} \times \frac{13}{28} = \frac{39}{2} = 19 \frac{1}{2}$$

(10)

$$\begin{array}{r} 2 \overline{) 39} \\ - 2 \\ \hline 19 \\ - 18 \\ \hline 1 \end{array}$$