

Warm Up Grade 8

Dec. 7. 2017

1) Add or subtract the following

$$a) \frac{3 \times 7}{3 \times 12} + \frac{5 \times 4}{9 \times 4}$$

$$\frac{21}{36} + \frac{20}{36}$$

$$\checkmark = \frac{41}{36}$$

$$= 1 \frac{5}{36}$$

$$b) \frac{2}{3} + \frac{4}{5} + \frac{1}{6}$$

$$\frac{20}{30} + \frac{24}{30} + \frac{5}{30}$$

$$= \frac{49}{30} \checkmark$$

$$\text{or}$$

$$1 \frac{19}{30}$$

3, 6, 9, 12, 15, 18, 21, 24, 27, 30
5, 10, 15, 20, 25

$$c) \frac{5 \times 5}{6 \times 5} - \frac{4 \times 2}{15 \times 2}$$

$$\frac{25}{30} - \frac{8}{30}$$

$$= \frac{17}{30} \checkmark$$

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

$$\frac{10}{12} \text{ or } \frac{5}{6}$$

$$c) \frac{1}{4} + \frac{5}{12} \quad \frac{1}{4} = \frac{3}{12}$$

$$\frac{3}{12} + \frac{5}{12} = \frac{8}{12} \text{ or } \frac{2}{3}$$

$$e) \frac{3}{5} + \frac{1}{2}$$

$$\frac{6}{10} + \frac{5}{10} = \frac{11}{10}$$

$$h) \frac{7}{12} + \frac{3}{4} \quad \frac{3}{4} = \frac{9}{12}$$

$$\frac{7}{12} + \frac{9}{12} = \frac{16}{12}$$

$$\text{or } \frac{4}{3}$$

$$i) \frac{9}{10} + \frac{1}{3}$$

$$\frac{27}{30} + \frac{10}{30} = \frac{37}{30}$$

$$2a) \frac{7}{8} - \frac{5}{8}$$

$$\frac{2}{8} = \frac{1}{4}$$

$$c) \frac{9}{10} - \frac{9}{100}$$

$$\frac{90}{100} - \frac{9}{100} = \frac{81}{100}$$

$$e) \frac{12}{15} - \frac{3}{5}$$

$$\frac{12}{15} - \frac{9}{15} = \frac{3}{15} = \frac{1}{5}$$

$$f) \frac{5}{5} - \frac{3}{4}$$

$$1 - \frac{3}{4} = \frac{1}{4}$$

$$\text{or } \frac{4}{4} - \frac{3}{4} = \frac{1}{4}$$

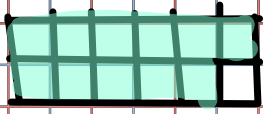
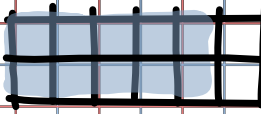
$$h) \frac{9}{15} - \frac{1}{2}$$

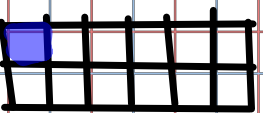
$$\frac{18}{30} - \frac{15}{30} = \frac{3}{30} = \frac{1}{10}$$

$$i) \frac{7}{25} - \frac{1}{4}$$

$$\frac{28}{100} - \frac{25}{100} = \frac{3}{100}$$

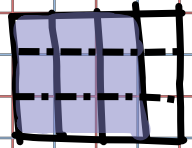
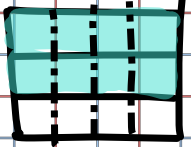
2 5)

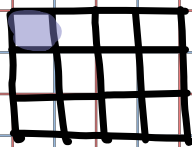
$$\frac{11}{12} - \frac{5}{6}$$



$$\frac{11}{12} - \frac{10}{12}$$


$$\frac{1}{12}$$

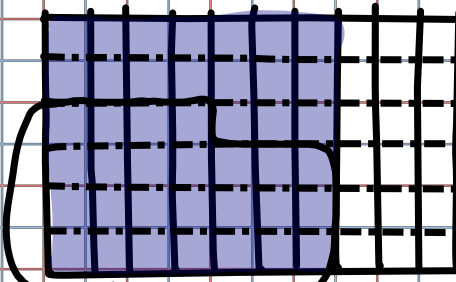
d1

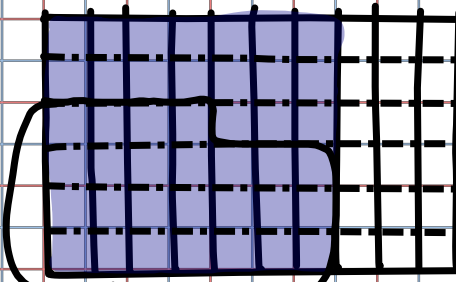
$$\frac{3}{4} - \frac{2}{3}$$



$$\frac{9}{12} - \frac{8}{12}$$


$$\frac{1}{12}$$

2)

$$\frac{7}{10} - \frac{5}{12}$$


$$\frac{42}{60} - \frac{25}{60}$$


$$\frac{17}{60}$$

$$3a) \frac{1 \times 3}{10 \times 3} + \frac{1 \times 10}{3 \times 10}$$

$$\frac{3}{30} + \frac{10}{30}$$

$$\frac{13}{30}$$

$$b) \frac{2 \times 4}{3 \times 4} - \frac{1 \times 3}{4 \times 3}$$

$$\frac{8}{12} - \frac{3}{12}$$

$$\frac{5}{12}$$

$$c) \frac{4 \times 3}{5 \times 3} + \frac{1 \times 5}{3 \times 5}$$

$$\frac{12}{15} + \frac{5}{15}$$

$$\frac{17}{15}$$

$$d) \frac{3 \times 5}{4 \times 5} - \frac{7 \times 2}{10 \times 2}$$

$$\frac{15}{20} - \frac{14}{20}$$

$$\frac{1}{20}$$

$$e) \frac{3 \times 2}{5 \times 2} + \frac{1 \times 5}{2 \times 5}$$

$$\frac{6}{10} + \frac{5}{10}$$

$$\frac{11}{10}$$

$$f) \frac{9 \times 4}{10 \times 4} - \frac{5 \times 5}{8 \times 5}$$

$$\frac{36}{40} - \frac{25}{40}$$

$$\frac{11}{40}$$

$$\frac{9}{10} - \frac{5}{8}$$

$$\frac{72}{80} - \frac{50}{80} = \frac{22}{80}$$

$$= \frac{11}{40}$$

Sheet 151

4 a) $\frac{4}{15} + \frac{1}{15} + \frac{7}{15}$

$$\frac{12}{15} = \frac{4}{5}$$

b) $\frac{1}{2} + \frac{2}{3} + \frac{3}{5}$

$$\frac{15}{30} + \frac{20}{30} + \frac{18}{30} = \frac{53}{30}$$

$$\frac{2}{3} = \frac{20}{30}$$

c) $\frac{2}{3} + \frac{1}{4} + \frac{3}{10}$

$$\frac{40}{60} + \frac{15}{60} + \frac{18}{60} = \frac{73}{60}$$

$$\frac{2}{3} = \frac{40}{60}$$

$$\frac{3}{4} = \frac{18}{24}$$

d) $\frac{3}{4} + \frac{5}{12} + \frac{1}{2}$

$$\begin{aligned} \frac{18}{24} + \frac{10}{24} + \frac{12}{24} &= \frac{40}{24} \\ &= \frac{20}{12} \\ &= \frac{5}{3} \end{aligned}$$

$$\begin{aligned} \frac{3}{4} + \frac{5}{12} + \frac{1}{2} \\ \frac{9}{12} + \frac{5}{12} + \frac{6}{12} \\ \frac{20}{12} \\ \frac{5}{3} \end{aligned}$$

5. $\frac{1}{2} + \frac{1}{3} + \frac{1}{4}$

$$\frac{6}{12} + \frac{4}{12} + \frac{3}{12} = \frac{13}{12}$$

or $1\frac{1}{12}$ hours doing laundry
or 1 hr 5 min

6. Doug

$$\frac{1}{4} + \frac{1}{8}$$

$$\frac{2}{8} + \frac{1}{8} = \frac{3}{8} = \frac{9}{24}$$

Ann

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

Doug ate $\frac{1}{24}$ more of the pie.

Adding and Subtracting Mixed Numbers

There are 2 ways that you can use to add or subtract mixed numbers.

Adding

$$2\frac{1}{2} + 3\frac{4}{5}$$

You can change to improper fractions, then add the fractions the same way you always do.

$$\begin{array}{l}
 5^x \left(\frac{6}{2} + \frac{19}{5} \right) \times 2 \\
 \frac{25}{10} + \frac{38}{10} \\
 \frac{63}{10} = 6\frac{3}{10}
 \end{array}$$

$$2\frac{1}{2} + 3\frac{4}{5}$$

You can add the whole numbers, then add the fractions. But remember that you can not have an answer being both a mixed number and an improper fraction.

$$\begin{array}{r}
 2+3 + \frac{1}{2} + \frac{4}{5} \\
 5 + \frac{5}{10} + \frac{8}{10} \\
 5 + \frac{13}{10} \\
 5 + 1\frac{3}{10} \\
 6\frac{3}{10}
 \end{array}$$

Subtracting

$$3 \frac{1}{3} - 1 \frac{5}{6}$$

You can change to improper fractions, then subtract

$$2 \times \frac{10}{3} - \frac{11}{6}$$

$$\frac{20}{6} - \frac{11}{6}$$

$$\frac{9}{6} = 1 \frac{3}{6}$$

$$\text{OR } \frac{3}{6} \div 3 = \frac{1}{2}$$

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

$$\text{or } \frac{3}{2}$$

$$3 \frac{1}{3} - 1 \frac{5}{6}$$

You can subtract the fraction parts first, then subtract the whole numbers, but remember that sometimes you may have to borrow from the whole numbers.

Examples :

$$\begin{aligned}
 & \text{(a) } 2\frac{3}{10} + 1\frac{5}{8} \\
 & \quad \hookrightarrow 10 \quad 8 \\
 & \quad 4 \times \frac{23}{10} + \frac{13 \times 5}{8 \times 5} \\
 & \quad \frac{92}{40} + \frac{65}{40} \\
 & \quad \frac{157}{40} \\
 & \quad 3\frac{37}{40}
 \end{aligned}$$

$$\begin{aligned}
 & \text{(b) } 1\frac{9}{10} + 1\frac{1}{5} \\
 & \quad \frac{19}{10} + \frac{6 \times 2}{5 \times 2} \\
 & \quad \frac{19}{10} + \frac{12}{10} \\
 & \quad \frac{31}{10} = 3\frac{1}{10}
 \end{aligned}$$

$$\begin{aligned}
 & \text{(c) } 3\frac{2}{3} - 4\frac{7}{8} \\
 & \quad \frac{11}{3} - \frac{39}{8}
 \end{aligned}$$

$$\text{(d) } 4\frac{1}{4} - 2\frac{3}{5}$$

Examples :

(a) $2\frac{3}{10} + 1\frac{5}{8}$

$$2\frac{12}{40} + 1\frac{25}{40}$$

$$3\frac{37}{40}$$

$$\frac{23}{10} + \frac{13}{8}$$
$$\frac{92}{40} + \frac{65}{40}$$
$$\frac{157}{40}$$

(b) $1\frac{9}{10} + 1\frac{1}{5}$

$$1\frac{9}{10} + 1\frac{2}{10}$$

$$2\frac{11}{10}$$

$$2 + 1\frac{1}{10}$$
$$3\frac{1}{10}$$

$$\frac{19}{10} + \frac{6}{5}$$

$$\frac{19}{10} + \frac{12}{10}$$

$$3\frac{1}{10}$$

(c) $3\frac{2}{3} + 4\frac{7}{8}$

$$3\frac{16}{24} + 4\frac{21}{24}$$

$$7\frac{37}{24}$$

$$7 + 1\frac{13}{24}$$

$$8\frac{13}{24}$$

(d) $4\frac{1}{4} + 2\frac{3}{5}$

$$\frac{16}{4} + \frac{13}{5}$$

$$\frac{80}{20} + \frac{52}{20}$$

$$\frac{132}{20}$$

$$6\frac{12}{20}$$

Homework Sheet 153 #1-6

Worksheets

Do both sides and change each fraction to an entire fraction before adding

Adding Mixed



Subtracting Mixed



Class/Homework

Sheet 153 #1-5



1(a,b,c,d,e,f), 2(a,b,c), 3(a,c) 4(a,b),5(b)

Attachments

Sheet 153 Adding & Subtracting MIXED FRactions PDF.pdf

adding_mixed_numbers.pdf

subtracting_mixed_numbers.pdf