



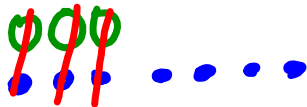
Warm Up Grade 7



$$1 \times 78 = 78$$

1) Use mental math

a) $(-3) + (+7) = (+4)$



b) $(-8) - (-1) =$

$(-8) + (+1) = (-7)$

add opp

c) $0.1 \times 78 =$

$$7.8$$

2) Add the following:

a) $5 \frac{1}{4} + 2 \frac{11}{12}$

add

$\times \rightarrow 4$ $\times \rightarrow 12$

$$= \frac{3 \times 21}{3 \times 4} + \frac{35}{12}$$

$$= \frac{63}{12} + \frac{35}{12}$$

$$= \frac{98}{12} = 8 \frac{2}{12}$$

$$= \frac{49}{6}$$

$$= 8 \frac{1}{6}$$

Do the back first Then below

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$$3 - \frac{1}{2}$$

4, #5i, ii, #6, #7, #9

Just subtract by using one of the 2 methods taught in class
(Reminder always to reduce all fractions to lowest terms)

Test 2 days time

Reduce Fraction Part

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1 a) $1\frac{3}{6} = \frac{9}{6}$ or $\frac{3}{2}$

b) $4\frac{2}{8} = \frac{34}{8}$ or $\frac{17}{4}$

c) $1\frac{3}{4} = \frac{7}{4}$

d) $3\frac{3}{5} = \frac{18}{5}$

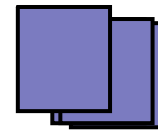
2 a) $\frac{17}{5} = 3\frac{2}{5}$

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

c) $\frac{18}{4} = 4\frac{2}{4}$ or $4\frac{1}{2}$

d) $\frac{28}{6} = 4\frac{4}{6}$ or $4\frac{2}{3}$

3 a) $1\frac{1}{6} + \frac{2}{6} = 1\frac{3}{6}$ or $1\frac{1}{2}$



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

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

c) $1\frac{4}{6} + 2\frac{1}{2}$
 $\frac{10}{6} + \frac{5}{2}$
 $\frac{10}{6} + \frac{15}{6}$
 $\frac{25}{6}$

$1\frac{4}{6} + 2\frac{3}{6}$
 $3\frac{7}{6}$
 $3 + 1\frac{1}{6}$
 $4\frac{1}{6}$

d) $2\frac{1}{3} + 3\frac{5}{6}$
 $\frac{7}{3} + \frac{23}{6}$
 $\frac{14}{6} + \frac{23}{6}$
 $\frac{37}{6}$

$2\frac{2}{6} + 3\frac{5}{6}$
 $5\frac{7}{6}$
 $5 + 1\frac{1}{6}$
 $6\frac{1}{6}$

$$6 \text{ a) } \frac{1}{2} + \frac{1}{5} = \frac{7}{10} \text{ (given)}$$

$$3\frac{1}{2} + \frac{1}{5} = 3\frac{7}{10}$$

$$\text{b) } \underline{\underline{\frac{1}{2}}} + \underline{\underline{2\frac{1}{5}}} = 2\frac{7}{10}$$

$$\text{c) } \underline{\underline{3\frac{1}{2}}} + \underline{\underline{2\frac{1}{5}}} = 5\frac{7}{10}$$

$$\text{d) } \underline{\underline{4\frac{1}{2}}} + \underline{\underline{3\frac{1}{5}}} = 7\frac{7}{10}$$

$$\begin{array}{l} \text{a) } 3\frac{1}{2} + \frac{1}{5} \\ 3\frac{5}{10} + \frac{2}{10} \\ 3\frac{7}{10} \end{array}$$

$$\begin{array}{l} \text{b) } \frac{1}{2} + 2\frac{1}{5} \\ \frac{1}{2} + \frac{4}{5} \\ \frac{5}{10} + \frac{22}{10} = 2\frac{7}{10} \end{array}$$

Homework

Pg 20 2# 7-13, Reflect

7. For each pair of numbers, find a common denominator. Then add.

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

$$\frac{10}{3} + \frac{1}{4}$$

$$\frac{40}{12} + \frac{3}{12}$$

$$= \frac{43}{12}$$

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

OR

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

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

$$3 + \frac{5}{12}$$

$$3\frac{5}{12}$$

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

$$\frac{1}{2} + \frac{19}{10}$$

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

$$= \frac{24}{10}$$

$$= 2\frac{4}{10} = 2\frac{2}{5}$$

OR

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

$$1 + \frac{5}{10} + \frac{9}{10}$$

$$1 + \frac{14}{10}$$

$$1 + 1\frac{4}{10}$$

$$2\frac{4}{10}$$

$$= 2\frac{2}{5}$$

c) $\frac{3}{4} + 2\frac{3}{5}$

$$\frac{3}{4} + \frac{13}{5}$$

$$\frac{15}{20} + \frac{52}{20}$$

$$= \frac{67}{20}$$

$$= 3\frac{7}{20}$$

OR

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

$$2 + \frac{15}{20} + \frac{12}{20}$$

$$2 + \frac{27}{20}$$

$$2 + 1\frac{7}{20}$$

$$3\frac{7}{20}$$

d) $\frac{3}{7} + 2\frac{1}{2}$

$$\frac{3}{7} + \frac{5}{2}$$

$$\frac{6}{14} + \frac{35}{14}$$

$$= \frac{41}{14}$$

$$= 2\frac{13}{14}$$

OR

$$2 + \frac{3}{7} + \frac{1}{2}$$

$$2 + \frac{6}{14} + \frac{7}{14}$$

$$2 + \frac{13}{14}$$

$$= 2\frac{13}{14}$$

7

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

$5 + \frac{7}{8} + \frac{2}{3}$

$5 + \frac{21}{24} + \frac{16}{24}$

$5 + \frac{37}{24}$

$5 + 1\frac{13}{24}$

$6\frac{13}{24}$

or

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

$\frac{39}{8} + \frac{5}{3}$

$\frac{17}{24} + \frac{40}{24}$

$= \frac{157}{24}$

f) $2\frac{3}{5} + 2\frac{2}{3}$

$\frac{12}{5} + \frac{8}{3}$

$\frac{36}{15} + \frac{40}{15}$

$\frac{76}{15}$

$= 5\frac{1}{15}$

OR

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

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

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

$4 + \frac{4}{3}$

$4 + \frac{9}{3} + \frac{10}{15}$

$4 + \frac{19}{15}$

$4 + \frac{14}{15}$

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

g) $5\frac{2}{5} + 1\frac{7}{8}$

$\frac{27}{5} + \frac{15}{4}$

$\frac{216}{40} + \frac{75}{40}$

$\frac{291}{40}$

$= 7\frac{11}{40}$

OR

$5\frac{2}{5} + 1\frac{7}{8}$

$5+1 + \frac{2}{5} + \frac{7}{8}$

$6 + \frac{2}{5} + \frac{7}{8}$

$6 + \frac{16}{40} + \frac{35}{40}$

$6 + \frac{51}{40}$

$6 + \frac{51}{40}$

$7\frac{11}{40}$

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

$\frac{23}{6} + \frac{9}{4}$

$\frac{46}{12} + \frac{27}{12}$

$\frac{73}{12}$

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

OR

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

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

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

$5 + \frac{10}{12} + \frac{3}{12}$

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

$5 + 1\frac{1}{12}$

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

8. Two students, Galen and Mai, worked on a project.

Galen worked for $3\frac{2}{3}$ h.

Mai worked for $2\frac{4}{5}$ h.

What was the total time spent on the project?

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

$$3\frac{10}{15} + 2\frac{12}{15}$$

$$5\frac{22}{15}$$

$$\text{or } 6\frac{7}{15}$$

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

$$\frac{11}{3} + \frac{14}{5}$$

$$\frac{55}{15} + \frac{42}{15}$$

$$\frac{97}{15}$$

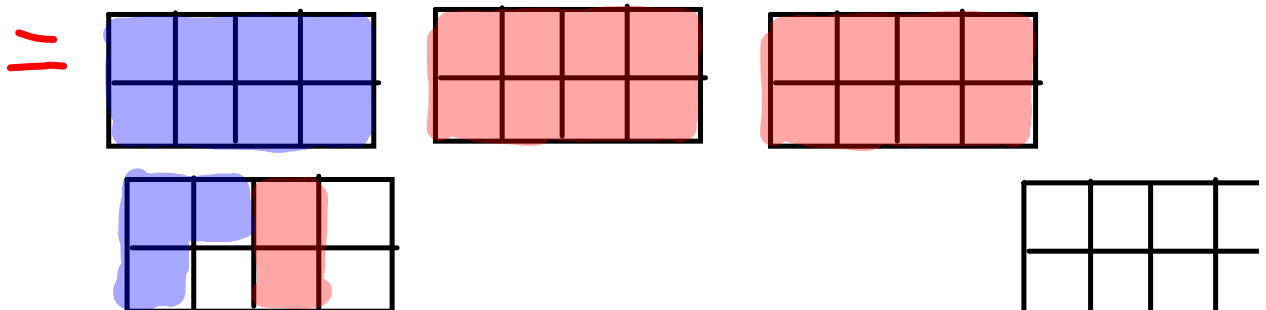
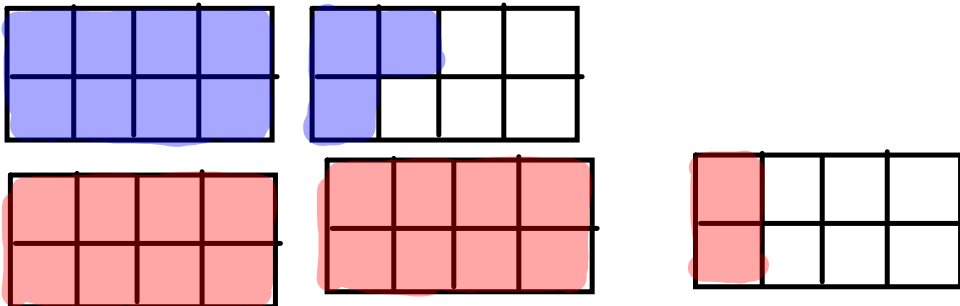
9. **Assessment Focus** Joseph used $1\frac{3}{8}$ cans of paint to paint his room. Juntia used $2\frac{1}{4}$ cans to paint her room.
- Estimate how many cans of paint were used in all.
 - Calculate how many cans of paint were used.
 - Draw a diagram to model your calculations in part b.

$$a) 1\frac{3}{8} + 2\frac{1}{4}$$

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

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

c)



10. A recipe for punch calls for $2\frac{2}{3}$ cups of fruit concentrate and $6\frac{1}{4}$ cups of water.

How many cups of punch will the recipe make?

Show your work.

$$2\frac{2}{3} + 6\frac{3}{4}$$

$$2\frac{8}{12} + 6\frac{9}{12}$$

$$8\frac{17}{12} \text{ or } 9\frac{5}{12} \text{ or } \frac{113}{12}$$

11. Use the fractions $1\frac{3}{5}$ and $2\frac{1}{10}$.

- Add the fractions and the whole numbers separately.
- Write each mixed number as an improper fraction.
- Add the improper fractions.
- Which method was easier: adding the mixed numbers or adding the improper fractions? Why do you think so? When would you use each method?

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

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

$$= 3 + \frac{3}{5} + \frac{1}{10}$$

$$= 3 + \frac{6}{10} + \frac{1}{10}$$

$$= 3 + \frac{7}{10}$$

$$= 3\frac{7}{10}$$

$$b) \quad 1\frac{3}{5} + 2\frac{1}{10}$$

$$\frac{8}{5} + \frac{21}{10}$$

$$\frac{16}{10} + \frac{21}{10}$$

$$= \frac{37}{10}$$

$$= 3\frac{7}{10}$$

d) As long as you explain

12. An auto mechanic completed 2 jobs before lunch.
 The jobs took $2\frac{2}{3}$ h and $1\frac{3}{4}$ h.
 How many hours did it take the mechanic to complete the 2 jobs?

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

$$\frac{8}{3} + \frac{7}{4}$$

$$\frac{32}{12} + \frac{21}{12}$$

$$\frac{53}{12} \text{ or } 4\frac{5}{12}$$

13. **Take It Further** Replace the \square with an improper fraction or mixed number to make this equation true.

$$3\frac{3}{5} + \square = 5$$

Find as many answers as you can.

Draw diagrams to represent your thinking.

$$3\frac{3}{5} + \square = 5$$

$$\frac{18}{5} + \square = 5$$

$$\frac{18}{5} + \frac{7}{5} = \frac{25}{5}$$

or

$$| \frac{2}{5}$$

Reflect

How is adding a mixed number and a fraction like adding two fractions?
 How is it different?
 Use examples to explain.

USE THIS METHOD

Subtracting

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

$$\begin{array}{r} 2 \times \frac{10}{3} - \frac{11}{6} \\ 2 \times \frac{20}{6} - \frac{11}{6} \\ \frac{20}{6} - \frac{11}{6} \end{array}$$

$$\frac{9}{6} = \frac{3}{2} = 1 \frac{1}{2}$$

Subtracting Mixed Numbers

You can change to improper fractions, then subtract like before by finding common denominators

OR

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

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.

$$3 \frac{2}{6} - 1 \frac{5}{6}$$

Step 1) Need common denominators for the fractional parts(will they subtract?)
IF no then borrow

how to borrow

$$2 \frac{8}{6} - 1 \frac{5}{6}$$

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

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

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

$$= 2 + \frac{6}{6} + \frac{2}{6}$$

$$= 2 \frac{8}{6}$$

Complicated sometimes

Ex 2) Without having to borrow:

$$3 \frac{5}{8} - 1 \frac{3}{10}$$

$$3 \frac{25}{40} - 1 \frac{12}{40}$$

$$2 \frac{13}{40}$$

Step 1) Need common denominators for the fractional parts(will they subtract?)

*IF no then borrow

* If yes then just subtract fractional parts from fractional parts and whole parts

Your Turn

a) $3 \frac{7}{8} - 1 \frac{3}{5}$

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

Examples:

a) $3\frac{7}{8} - 1\frac{3}{5}$

$$\frac{5 \times 31}{5 \times 8} - \frac{8 \times 8}{5 \times 8}$$

$$\frac{155}{40} - \frac{64}{40}$$

$$= \frac{91}{40}$$

$$= 2\frac{11}{40}$$

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

$$\frac{31}{6} - \frac{11}{3}$$

$$\frac{31}{6} - \frac{22}{6}$$

$$\frac{9}{6} \rightarrow \frac{3}{2} = 1\frac{1}{2}$$

Examples:

$$3\frac{7}{8} - 1\frac{3}{5}$$

$$3\frac{35}{40} - 1\frac{24}{40}$$

$$2\frac{11}{40}$$

$$3\frac{7}{8} - 1\frac{3}{5}$$

$$3\frac{1}{8} - \frac{8}{5}$$

$$1\frac{55}{40} - \frac{64}{40}$$

$$\frac{91}{40}$$

$$5\frac{1}{6} - 3\frac{2}{3}$$

$$5\frac{1}{6} - 3\frac{4}{6}$$

$$4\frac{7}{6} - 3\frac{4}{6}$$

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

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

$$5\frac{1}{6} - 3\frac{2}{3}$$

$$3\frac{1}{6} - \frac{11}{3}$$

$$3\frac{1}{6} - 2\frac{2}{2}$$

$$\frac{6}{6} - \frac{2}{3}$$

Homework
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Class / Homework

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$$\begin{array}{r} \times 3 - \frac{1}{2} \\ \times 1 \\ \hline \frac{3}{2} - \frac{1}{2} \end{array}$$

4, #5i, ii, #6, #7, #9

Just subtract by using one of the 2 methods taught in class

(Reminder always to reduce all fractions to lowest terms)

Test in 2 days

Examples:

$$3\frac{7}{8} - 1\frac{3}{5}$$

$$\frac{31 \times 5}{8 \times 5} - \frac{8 \times 8}{5 \times 8}$$

$$\frac{155}{40} - \frac{64}{40}$$

$$\frac{91}{40}$$

$$5\frac{1}{6} - 3\frac{2}{3}$$

$$\frac{31}{6} - \frac{11 \times 2}{3 \times 2}$$

$$\frac{31}{6} - \frac{22}{6}$$

$$\frac{9}{6} \text{ or } \frac{3}{2}$$

$$3\frac{7 \times 5}{8 \times 5} - 1\frac{3 \times 8}{5 \times 8}$$

$$3\frac{35}{40} - 1\frac{24}{40}$$

$$2\frac{11}{40}$$

$$5\frac{1}{6} - 3\frac{2}{3}$$

$$5\frac{1}{6} - 3\frac{4}{6}$$

$$4\frac{7}{6} - 3\frac{4}{6}$$

$$1\frac{3}{6} \text{ or } 1\frac{1}{2}$$

Homework
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