M3.L13 – Estimating Fractions/Mixed Numbers

Mark jogged $\frac{32}{35}$ Km more than his sister.

M $\boxed{3\frac{5}{7} \text{ Km}}$

S $\boxed{2\frac{4}{5} \text{ Km}}$?

$3\frac{5}{7} - 2\frac{4}{5}$

$1\frac{5}{7} - \frac{4}{5}$

$X + \left(\frac{5 \times 5}{7 \times 5}\right) - \left(\frac{4 \times 7}{5 \times 7}\right)$

$\left(\frac{35}{35} + \frac{25}{35}\right) - \frac{28}{35}$

$\frac{60}{35} - \frac{28}{35} = \boxed{\frac{32}{35}}$

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Fluency

$\frac{1}{10} = 0.1$

$\frac{3}{10} = 0.3$

$\frac{7}{10} = 0.7$

$\frac{1}{2} = \frac{5}{10} = 0.5$

$1\frac{1}{2} = 1\frac{5}{10} = 1.5$

$\frac{1}{5} = \frac{2}{10} = 0.2$

$\frac{2}{5} = \frac{4}{10} = 0.4$

$\frac{4}{5} = 0.8$

$2\frac{4}{5} = 2\frac{8}{10} = 2.8$

$\frac{1}{4} = \frac{25}{100} = 0.25$

$\frac{3}{4} = \frac{35}{100} = 0.75$

$5\frac{3}{4} = 5.75$

$\frac{1}{25} = \frac{4}{100} = 0.04$

$\frac{2}{25} = \frac{8}{100} = 0.08$

$5\frac{3}{25} = 5\frac{12}{100} = 5.12$

$\frac{1}{20} = \frac{5}{100} = 0.05$

$\frac{11}{20} = \frac{55}{100} = 0.55$

$\frac{1}{50} = \frac{2}{100} = 0.02$

$\frac{3}{50} = \frac{6}{100} = 0.06$

$4\frac{3}{50} = 4.06$

$$\frac{1}{4} + \frac{1}{2} = \frac{2}{6} \; X \qquad \frac{1}{4} + \frac{2}{4} = \frac{3}{4} \checkmark$$

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

$$\frac{2}{3} - \frac{2}{9} = \frac{4}{9} \qquad \frac{6}{9} - \frac{2}{9} = \frac{4}{9} \checkmark$$

$$\frac{5}{6} - \frac{2}{3} = \frac{3}{3} \qquad \frac{5}{6} - \frac{4}{6} = \frac{1}{6}$$

$$\frac{1}{2} + \frac{3}{4} \; \bigodot{>} \; 1 \qquad\qquad 0.50 + 0.75 = 1.00$$

$$\frac{1}{2} + \frac{1}{2} = 1 \qquad \frac{3}{4} > \frac{1}{2}$$

$$\left| \frac{2}{5} - \frac{2}{3} \right| \bigodot{<} 1$$

X	X				
X		X			

$$\frac{4}{10} + \frac{1}{3} \enspace \boxed{<} \enspace 1 \qquad\qquad \frac{4}{10} + \frac{2}{9} \enspace \boxed{>} \enspace \frac{1}{2}$$

$$\frac{4}{10} < \frac{1}{2}$$

$$\frac{4}{10} + \frac{1}{10} = \frac{1}{2}$$

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

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

$$1\frac{4}{7} - \frac{9}{10} \enspace \boxed{>} \enspace \frac{1}{2}$$

$$\frac{10}{10} - \frac{9}{10} = \frac{1}{10} \qquad \frac{4}{7} = \frac{8}{14} > \frac{7}{14} = \frac{1}{2}$$

$$\frac{4}{7} + \frac{1}{10} =$$

$$\frac{4}{5} - \frac{1}{8} \enspace \bigcirc \enspace \frac{1}{2}$$

Name _____   Date _____

1. Are the following expressions greater than or less than 1? Circle the correct answer.

   a. $\frac{1}{2} + \frac{2}{7}$ greater than 1   (less than 1)

   b. $\frac{5}{8} + \frac{3}{5}$ (greater than 1)   less than 1

   (c.) $1\frac{1}{4} - \frac{1}{3}$ greater than 1   (less than 1)

   (d.) $3\frac{5}{8} - 2\frac{5}{9}$ (greater than 1)   less than 1 $1\frac{5}{8} - \frac{5}{9}$

2. Are the following expressions greater than or less than $\frac{1}{2}$? Circle the correct answer.

   (a.) $\frac{1}{4} + \frac{2}{3}$ (greater than $\frac{1}{2}$)   less than $\frac{1}{2}$

   b. $\frac{3}{7} - \frac{1}{8}$ greater than $\frac{1}{2}$ (less than $\frac{1}{2}$)

   (c.) $1\frac{1}{7} - \frac{7}{8}$ greater than $\frac{1}{2}$ (less than $\frac{1}{2}$)

   d. $\frac{3}{7} + \frac{2}{6}$ (greater than $\frac{1}{2}$)   less than $\frac{1}{2}$ $\frac{18}{42} + \frac{14}{42} = \frac{32}{42} \quad \frac{16}{21}$

3. Use $>$, $<$, or $=$ to make the following statements true.

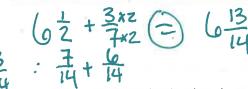   (a.) $5\frac{2}{3} + 3\frac{3}{4}$ $\;>\;$ $8\frac{2}{3}$ b. $4\frac{5}{8} - 3\frac{2}{5}$ _____ $1\frac{5}{8} + \frac{2}{5}$

   (c.) $5\frac{1}{2} + 1\frac{3}{7}$ $\;=\;$ $6 + \frac{13}{14}$ d. $15\frac{4}{7} - 11\frac{2}{5}$ _____ $4\frac{4}{7} + \frac{2}{5}$

$$5\frac{2}{3} + 3\frac{3}{4} \qquad 8\frac{2}{3} + \frac{3}{4} \;\bigcirc\; 8\frac{2}{3}$$

$$6\frac{1}{2} + \frac{3\times2}{7\times2} \;\bigcirc\; 6\frac{13}{14}$$

$$6\frac{13}{14} \quad : \quad \frac{7}{14} + \frac{6}{14}$$

Lesson 13:   Use fraction benchmark numbers to assess reasonableness of addition and subtraction equations.