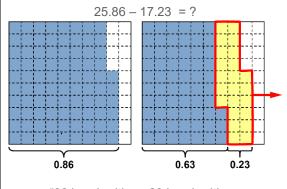# Activity 24 Assessment
Consolidating Operations with Fractions and Decimal

Conceptual Meaning of Addition and Subtraction of Decimals

Recognizes addition and subtraction situations and models concretely or pictorially to add or subtract to hundredths (using hundredths grids or Base Ten Blocks)	Uses an understanding of place value to add or subtract decimals with hundredths (using standard algorithm)	Models to add or subtract decimals with thousandths (e.g., using thousandths grids or number lines)
$25.86 - 17.23 = ?$ **0.86**　　**0.63**　**0.23** "86 hundredths − 23 hundredths = 63 hundredths 25 − 17 = 8" $25.86 - 17.23 = 8.63$	$25.86 - 17.23 = ?$ $$\begin{array}{r} 1\ 1 \\ 2\ 5.8\ 6 \\ -\ 1\ 7.2\ 3 \\ \hline 8.6\ 3 \end{array}$$ "I used the standard algorithm to subtract the hundredths, then the tenths, and then the whole numbers."	$43.600 - 1.345 = ?$ **0.600**　　**0.255　0.345** "600 thousandths − 345 thousandths = 255 thousandths 43 − 1 = 42." $43.6 - 1.345 = 42.255$

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Activity 24 Assessment
Consolidating Operations with Fractions and Decimal

Conceptual Meaning of Addition and Subtraction of Decimals (cont'd)

Uses an understanding of place value to add or subtract decimals with thousandths (e.g., using standard algorithm)	Uses estimation and mental math strategies to check reasonableness of solutions	Solves addition and subtraction problems flexibly, using a variety of strategies

Uses an understanding of place value to add or subtract decimals with thousandths (e.g., using standard algorithm)

$$\begin{array}{r} {\scriptstyle 5\ 9\ 1} \\ 43.600 \\ -\ 1.345 \\ \hline 42.255 \end{array}$$

"I used the standard algorithm to subtract the thousandths, then the hundredths, then the tenths, and then the whole numbers."

Uses estimation and mental math strategies to check reasonableness of solutions

43.6 – 1.345 = 42.255
43.6 is close to 44. 1.345 is close to 1.
44 – 1 = 43

"42.255 is the answer I calculated, and it is close to 43, so my answer is reasonable."

Solves addition and subtraction problems flexibly, using a variety of strategies

Naomi swam 1.5 km, rode a bicycle for 35.29 km, and ran for 8.375 km. What was the total distance Naomi travelled?

1.5 km + 35.29 km + 8.375 km = ?

$$\begin{array}{r} {\scriptstyle 1\ 1} \\ {\scriptstyle 1}\quad 1.500 \\ 35.290 \\ +\ 8.375 \\ \hline 45.165 \end{array}$$

"I wrote each number as a decimal with thousandths.
Naomi travelled 45.165 km in total."

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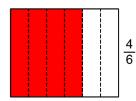
Activity 24 Assessment
Consolidating Operations with Fractions and Decimal

Adding and Subtracting Fractions with Like Denominators

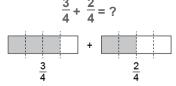| Expresses the composition or decomposition of a quantity as a sum or difference	Adds and subtracts concretely or pictorially	Adds and subtracts symbolically	Flexibly solves problems involving the addition and subtraction of fractions

Expresses the composition or decomposition of a quantity as a sum or difference

<catch: pick up

$\frac{4}{6}$

"I can think of $\frac{4}{6}$ as $\frac{1}{6} + \frac{1}{6} + \frac{1}{6} + \frac{1}{6}$, or as $\frac{1}{6} + \frac{3}{6}$.
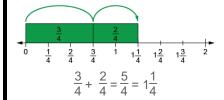
I can also think of $\frac{4}{6}$ as $\frac{6}{6} - \frac{1}{6} - \frac{1}{6}$, or as $\frac{6}{6} - \frac{2}{6}$."

Adds and subtracts concretely or pictorially

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

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

"Because each whole is divided into fourths, I can add the parts. 3 fourths + 2 fourths = 5 fourths. 5 fourths make 1 whole and $\frac{1}{4}$."

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

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

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

"I modelled on the number line, then counted on from $\frac{3}{4}$: 4 fourths, 5 fourths."

Adds and subtracts symbolically

$3\frac{1}{8} - \frac{6}{8} = ?$

$3\frac{1}{8} = \frac{25}{8}$

$\frac{25}{8} - \frac{6}{8} = \frac{19}{8}$, or $2\frac{3}{8}$

"I converted $3\frac{1}{8}$ to $\frac{25}{8}$, then subtracted. I checked my answer using addition."

Flexibly solves problems involving the addition and subtraction of fractions

$1\frac{3}{10} + \frac{8}{10} + ? = 2\frac{7}{10}$

$1\frac{3}{10} + \frac{8}{10} = 1\frac{11}{10} = 2\frac{1}{10}$

$2\frac{7}{10} - 2\frac{1}{10} = \frac{6}{10}$

$2\frac{1}{10} + \frac{6}{10} = 2\frac{7}{10}$

"$\frac{6}{10}$ needs to be added to the other fractions to equal $2\frac{7}{10}$."

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