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Math 5

UNIT 4 – Adding and Subtracting Fractions

4-6 Fractions in Real World

(Addition and Subtraction)

Name:		Date:	

|	
Common Core Standards	CCSS.MATH.CONTENT.5.NF.A.2 Solve word problems involving addition and subtraction of fractions referring to the same whole, including cases of unlike denominators, e.g., by using visual fraction models or equations to represent the problem. Use benchmark fractions and number sense of fractions to estimate mentally and assess the reasonableness of answers. For example, recognize an incorrect result *2/5 + 1/2 = 3/7*, by observing that *3/7 < 1/2*.

4-6 Fractions in Real World (Addition and Subtraction)

<div style="border:3px solid purple;">

Finding Unknown Fractions
(Single Step)

</div>

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

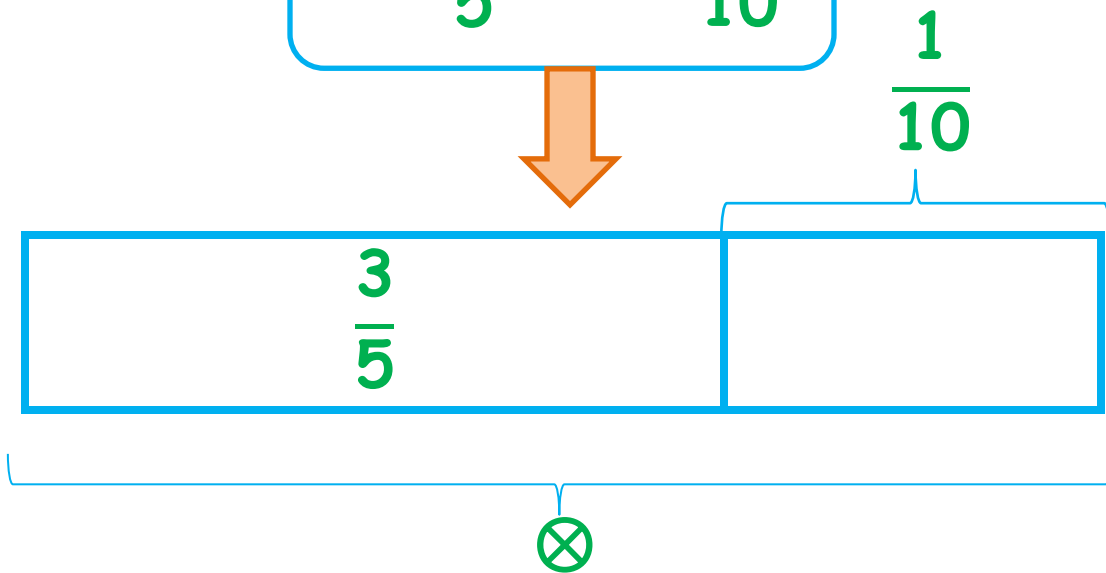| $\heartsuit$	$\frac{1}{4}$
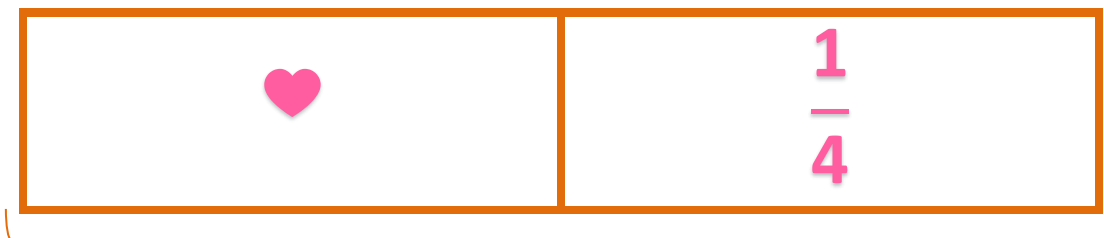
$$\frac{1}{2}$$

$$\heartsuit = \frac{1}{2} - \frac{1}{4} = \frac{1}{4}$$

Finding Unknown Fractions
(Single Step)

$$\otimes - \frac{3}{5} = \frac{1}{10}$$

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

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

$$\otimes$$

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

Use the information in the box to match the symbols and fractions.

$$\frac{*}{14} - \frac{1}{7} = \frac{9}{14} \qquad \frac{\boxtimes}{12} + \frac{1}{3} = \frac{11}{12}$$

$$\frac{\bigcap}{15} - \frac{2}{3} = \frac{1}{5} \qquad \frac{\otimes}{16} + \frac{1}{8} = \frac{5}{16}$$

$*$	3
$\bigcap$	7
$\boxtimes$	11
$\otimes$	13

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Finding Unknown Fractions in Real World

(Single Step Problems)

Harold and Robins are selling their summer orange drink near their house. They have already sold $\frac{1}{4}$ of a pitcher and now have $\frac{2}{3}$ of the pitcher left for them to sell.

What fraction of the pitcher was filled with their orange drink at first?

Sold   To Sell

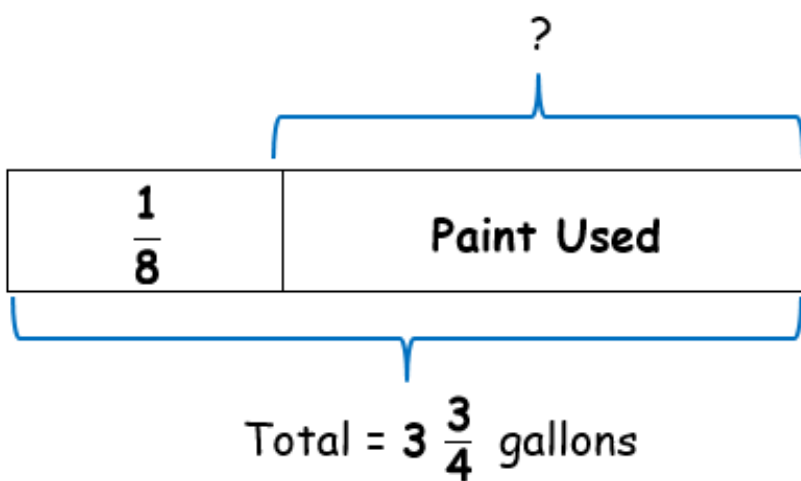| $\frac{1}{4}$	$\frac{2}{3}$

Total = ?

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

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

$$= \frac{11}{12}$$

Finding Unknown Fractions in Real World

(Single Step Problems)

Mr Carpenter has $3\frac{3}{4}$ gallons of paint before working on a special project. After he finished working on his project, he was left with $\frac{1}{8}$ gallons of paint. What fraction of the gallons of paint did he use for the project?

?

$\frac{1}{8}$ | Paint Used

Total = $3\frac{3}{4}$ gallons

$3\frac{3}{4} - \frac{1}{8}$

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

$= 3\frac{5}{8}$

Fill the blanks with ✔ if the statement is true or ✘ if otherwise.

_____1. Marian needs $5\frac{9}{10}$ liters of paint to repaint her room. If her sister gave her $2\frac{7}{10}$ liters of paint, she only needs $3\frac{2}{10}$ liters more.

_____2. Joseph ran $3\frac{4}{5}$ km on Monday and ran $3\frac{1}{10}$ km on Tuesday. He's now covered $6\frac{9}{10}$ kilometers.
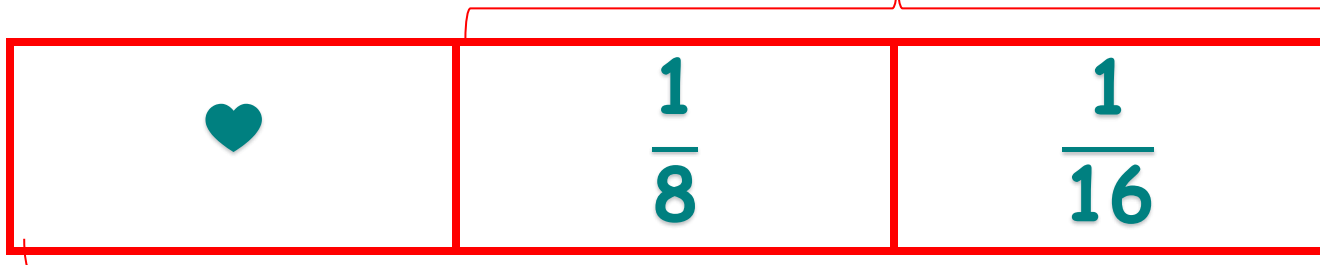
_____3. Hillary has $6\frac{5}{9}$ liters of gas when she left for a road trip. She'll be stopping by Sametown which takes up $2\frac{1}{3}$ liters of gas. Her next stop, Smallville, would require $4\frac{2}{9}$ liters of gas if she drives her car. Hillary would need more gas to complete the trip.

Finding Unknown Fractions (Multi-Step)

$$\heartsuit + \frac{1}{8} + \frac{1}{16} = \frac{12}{16}$$

$$\frac{3}{16}$$

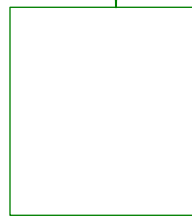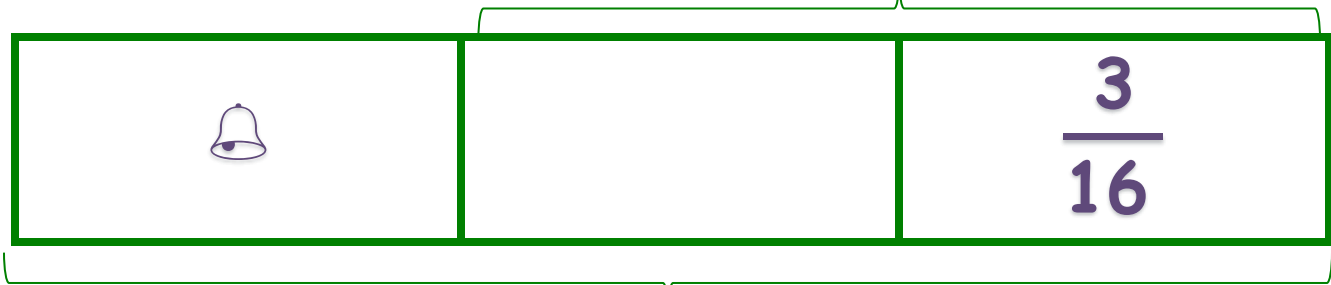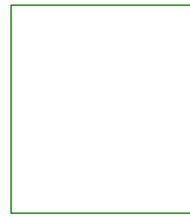| $\heartsuit$	$\frac{1}{8}$	$\frac{1}{16}$

$$\frac{12}{16}$$

$$\heartsuit = \frac{12}{16} - \frac{3}{16} = \frac{9}{16}$$

# Complete the flow chart below to find the unknown symbol.
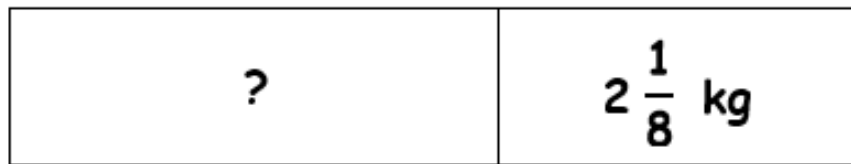
$$\bell + \frac{9}{16} + \frac{3}{16} = \frac{15}{16}$$

🔔		$\frac{3}{16}$

$$\bell = \frac{15}{16} - \quad = \frac{3}{16}$$

Finding Unknown Fractions in Real World

(Multi-Step Problems)

Tony and his team of volunteers helped clean up a total of $4\frac{1}{2}$ kg of trash in their neighborhood, and cleaned up another $3\frac{1}{4}$ kg of trash. $2\frac{1}{8}$ kilograms of trash were sent for recycling and the rest were disposed properly. How many kilograms of trash did they throw away?

$3\frac{1}{4}$ kg	$4\frac{1}{2}$ kg
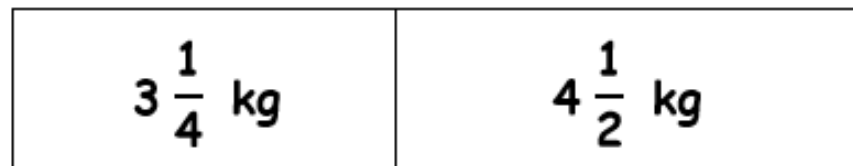
$$3\frac{1}{4} + 4\frac{1}{2} = 7\frac{5}{8} \text{ kg}$$

?	$2\frac{1}{8}$ kg

$7\frac{5}{8}$ kg

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

$$= 5\frac{4}{8} \text{ kg} = 5\frac{1}{2}$$

Finding Unknown Fractions in Real World

(Multi-Step Problems)

Jake needs to run for a total of $10\frac{7}{8}$ kilometers in a week. He has already completed $2\frac{1}{16}$ kilometers on Monday and then some on Wednesday. If he still needs to complete $3\frac{1}{8}$ kilometers, how many kilometers did he complete on Wednesday?

$$2\frac{1}{16} + 3\frac{2}{16} = 5\frac{3}{16} \text{ km}$$

| $2\frac{1}{16}$ | $3\frac{1}{8}$ | Wednesday |

$$10\frac{7}{8} \text{ km}$$

$$10\frac{7}{8} - 5\frac{3}{16}$$
$$= 10\frac{14}{16} - 5\frac{3}{16}$$
$$= 5\frac{11}{16} \text{ km}$$

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Use the clues from Alma, Carol, and Bettina to fill in the missing values.

Bettina: "I walked $3\frac{1}{8}$ more miles than Alma."

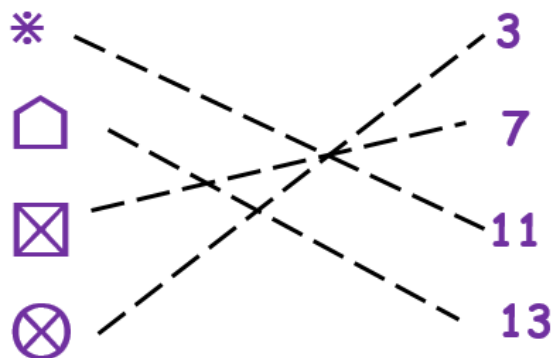Alma: "At least I'm not alone, Carol and I walked the same distance."

Carol: "Wow, I can't believe I've walked $2\frac{1}{4}$ miles today!"

Alma

Bettina

Carol

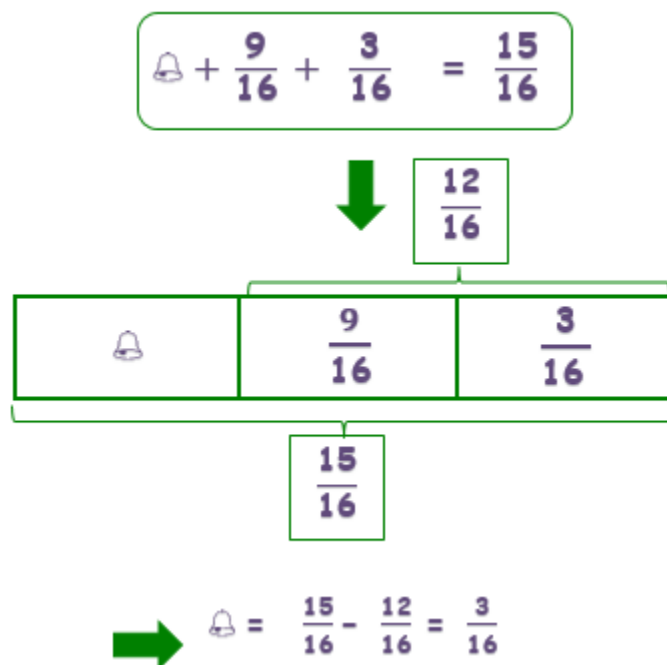**Use the information in the box to match the symbols and fractions.**

Fill the blanks with ✓ if the statement is true or x if otherwise.

1. ✓

2. ✓

3. ✗

Complete the flow chart below to find the unknown symbol.

$$\text{🔔} + \frac{9}{16} + \frac{3}{16} = \frac{15}{16}$$

$$\boxed{\frac{12}{16}}$$

| 🔔 | $\frac{9}{16}$ | $\frac{3}{16}$ |

$$\boxed{\frac{15}{16}}$$

$$\text{🔔} = \frac{15}{16} - \frac{12}{16} = \frac{3}{16}$$

Use the clues from Alma, Carol, and Bettina to fill in the missing values.

Alma $\boxed{}$ $\boxed{3\dfrac{1}{8}}$

Bettina $\boxed{}$

$\boxed{5\dfrac{3}{8}}$

Carol $\boxed{}$

$\boxed{2\dfrac{1}{4}}$