

# Adding and Subtracting Fractions with Like Denominators

Complete the chain so that the fractions in the same big shapes are the same.

$$\boxed{\frac{13}{29}} + \begin{array}{|c|} \hline \square \\ \hline \square \\ \hline \end{array} = \bigcirc$$

$$\bigcirc - \begin{array}{|c|} \hline \square \\ \hline \square \\ \hline \end{array} = \triangle$$

$$\triangle + \begin{array}{|c|} \hline \square \\ \hline \square \\ \hline \end{array} = \text{oval}$$

$$\text{oval} + \begin{array}{|c|} \hline \square \\ \hline \square \\ \hline \end{array} = \text{parallelogram}$$

$$\text{parallelogram} - \begin{array}{|c|} \hline \square \\ \hline \square \\ \hline \end{array} = \boxed{\frac{13}{29}}$$

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# More Adding and Subtracting Fractions with Like Denominators

Write 3 equivalent numbers for each number.

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

2  $9\frac{5}{12}$

3  $\frac{29}{4}$

4  $\frac{46}{8}$

5  $8\frac{17}{19}$

6  $\frac{67}{9}$

# Stories About Adding and Subtracting Fractions

- 1 Complete the number sentence. Then, explain your strategy.

$$\frac{231}{468} + \frac{\boxed{\phantom{000}}}{\boxed{\phantom{000}}} = 1$$

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- 2 Write a story problem for the number sentence.

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# Adding and Subtracting Unlike Things

Complete each number sentence with three different units.

$$\begin{aligned} \textcircled{1} \quad 42 \text{ m} + 100 \text{ cm} &= \underline{\hspace{2cm}} \text{ m} \\ &= \underline{\hspace{2cm}} \text{ cm} \\ &= \underline{\hspace{2cm}} \text{ mm} \end{aligned}$$

$$\begin{aligned} \textcircled{2} \quad 7 \text{ ft} + 24 \text{ in.} &= \underline{\hspace{2cm}} \text{ in.} \\ &= \underline{\hspace{2cm}} \text{ ft} \\ &= \underline{\hspace{2cm}} \text{ yd} \end{aligned}$$

$$\begin{aligned} \textcircled{3} \quad 5 \text{ km} - 2,000 \text{ m} &= \underline{\hspace{2cm}} \text{ cm} \\ &= \underline{\hspace{2cm}} \text{ m} \\ &= \underline{\hspace{2cm}} \text{ km} \end{aligned}$$

$$\begin{aligned} \textcircled{4} \quad 480 \text{ min} - 6 \text{ hr} &= \underline{\hspace{2cm}} \text{ hr} \\ &= \underline{\hspace{2cm}} \text{ min} \\ &= \underline{\hspace{2cm}} \text{ sec} \end{aligned}$$

$$\begin{aligned} \textcircled{5} \quad 87 \text{ yd} - 93 \text{ ft} &= \underline{\hspace{2cm}} \text{ yd} \\ &= \underline{\hspace{2cm}} \text{ ft} \\ &= \underline{\hspace{2cm}} \text{ in.} \end{aligned}$$

$$\begin{aligned} \textcircled{6} \quad 1,020 \text{ sec} - 5 \text{ min} &= \underline{\hspace{2cm}} \text{ sec} \\ &= \underline{\hspace{2cm}} \text{ min} \\ &= \underline{\hspace{2cm}} \text{ hr} \end{aligned}$$

# Adding and Subtracting Fractions with Unlike Denominators

Find a common denominator in order to add the fractions.

$$1 \quad \frac{2}{3} + \frac{5}{6} + \frac{1}{2} = \frac{\square}{\square} + \frac{\square}{\square} + \frac{\square}{\square} = \frac{\square}{\square}$$


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$$2 \quad \frac{7}{8} + \frac{3}{4} + \frac{1}{6} = \frac{\square}{\square} + \frac{\square}{\square} + \frac{\square}{\square} = \frac{\square}{\square}$$


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$$3 \quad \frac{1}{2} + \frac{1}{3} + \frac{3}{5} = \frac{\square}{\square} + \frac{\square}{\square} + \frac{\square}{\square} = \frac{\square}{\square}$$


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Find a common denominator for the fractions in order to subtract the numbers.

$$4 \quad 5\frac{1}{3} - 3\frac{1}{5} = \underline{\hspace{2cm}} = \underline{\hspace{2cm}}$$


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$$5 \quad 6\frac{1}{4} - 4\frac{3}{8} = \underline{\hspace{2cm}} = \underline{\hspace{2cm}}$$

# Stories with Fractions

- 1 In the shaded spaces below, three fractions are listed in order from smallest to largest.

In the white spaces between them, write new fractions so that all five fractions are still in order.

$\frac{1}{5}$		$\frac{1}{4}$		$\frac{1}{3}$
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- 2 Here are five fractions.

$$\frac{9}{7} \quad \frac{3}{5} \quad \frac{7}{6} \quad \frac{3}{8} \quad \frac{3}{4}$$

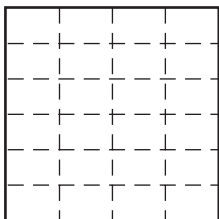
- In the shaded spaces below, list them in order from smallest to largest.
- In the white spaces between them, write new fractions so that all nine fractions are still in order.

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# Using Area to Multiply Fractions

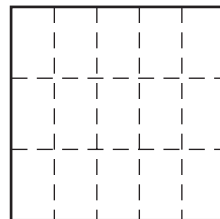
Make up your own multiplication sentences to match the areas you shade in the sketches.

1



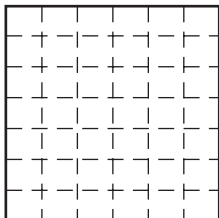
$$\frac{\square}{4} \times \frac{\square}{6} = \square$$

2



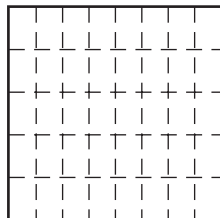
$$\frac{\square}{5} \times \frac{\square}{3} = \square$$

3



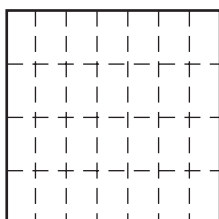
$$\frac{\square}{\square} \times \frac{\square}{\square} = \square$$

4



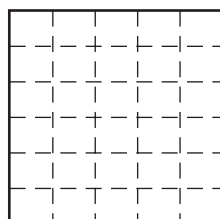
$$\frac{\square}{\square} \times \frac{\square}{\square} = \square$$

5



$$\frac{\square}{\square} \times \frac{\square}{\square} = \square$$

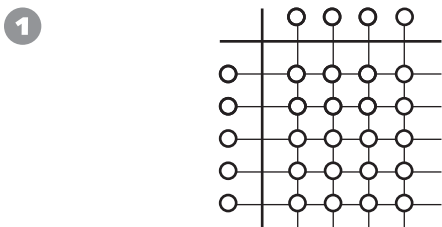
6



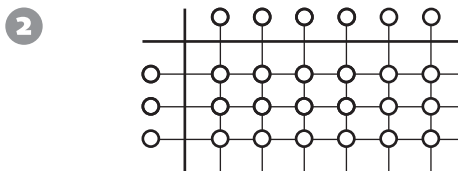
$$\frac{\square}{\square} \times \frac{\square}{\square} = \square$$

# Using Other Models to Multiply Fractions

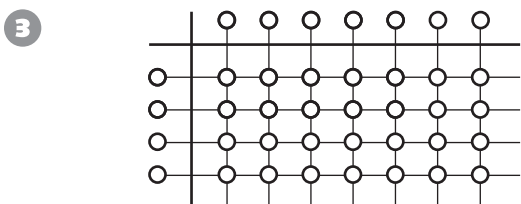
Make up fractions to multiply and shade the dot sketches. Complete the number sentences.



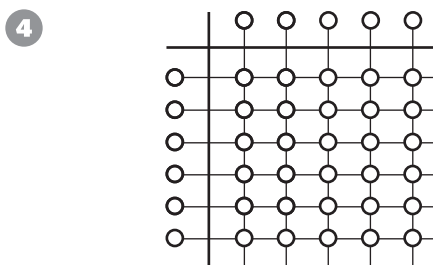
$$\frac{\square}{4} \times \frac{\square}{5} = \square$$



$$\square \times \square = \square$$



$$\square \times \square = \square$$



$$\square \times \square = \square$$

Make up your own dot sketches and number sentences to show multiplication of fractions.

5

$$\square \times \square = \square$$

6

$$\square \times \square = \square$$



# Fractions of Quantities

Complete each number sentence.

1

$$\frac{1}{5} \times 6\frac{2}{3} = \square$$

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2

$$1\frac{2}{5} \times 15 = \square$$

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3

$$2\frac{3}{8} \times 32 = \square$$

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4

$$\frac{3}{4} \times 4\frac{1}{8} = \square$$

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5

$$\frac{2}{3} \times 4\frac{2}{5} = \square$$

# Stories About Multiplying Fractions

- 1 You already know about fact families in multiplication and division.

$$7 \times 9 = 63$$

$$9 \times 7 = 63$$

$$63 \div 7 = 9$$

$$63 \div 9 = 7$$

Use that knowledge to complete these related sentences.

$$\frac{3}{4} \times \frac{3}{5} = \square$$

$$\frac{3}{5} \times \frac{3}{4} = \square$$

$$\square \div \frac{3}{4} = \frac{3}{5}$$

$$\square \div \frac{3}{5} = \frac{3}{4}$$

- 2 Multiply and write the product in simplest form.

$$\frac{9}{20} \times \frac{4}{3} = \square \text{ or } \square$$

$$\frac{9}{20} \times \frac{5}{3} = \square \text{ or } \square$$

- 3 Compare using  $<$ ,  $=$ , or  $>$ . (Hint: See Problem 1 & Problem 2.)

$$\frac{9}{20} \div \frac{3}{4} \bigcirc \frac{9}{20} \times \frac{4}{3}$$

$$\frac{9}{20} \div \frac{3}{5} \bigcirc \frac{9}{20} \times \frac{5}{3}$$

- 4 Multiply and write the product in simplest form.

$$\frac{3}{5} \times \frac{5}{3} = \square \text{ or } \square \quad \frac{4}{7} \times \frac{7}{4} = \square \text{ or } \square$$