Visual Learning Animation

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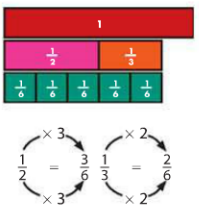
What is a common denominator? [A denominator that is the same for two or more fractions] ***Why do you need a common denominator to add fractions?*** [Sample response: You need to add same-size parts of the whole. If the denominators are different, you cannot combine the parts.] ***What is another common denominator you could use to add the fractions?*** [12]

Step 2

Write the equivalent fractions.



Why do you have to write equivalent fractions to add? [To keep the same values of the original fractions]

Step 3

Add. Simplify if necessary.

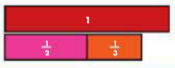
$$\frac{1}{2} = \frac{3}{6}$$
$$+\frac{1}{3} = +\frac{2}{6}$$
$$\frac{5}{6}$$

Alex rode his scooter $\frac{5}{6}$ mile.

How is adding fractions with unlike denominators different from adding fractions with like denominators? How is it similar? [It is different because you have to rewrite the fractions with a common denominator before adding. Then, it is the same as adding fractions with like denominators.]

Step 1

Change the fractions to equivalent fractions with a common, or like, denominator.



The least common denominator (LCD) of two fractions is the least common multiple of the denominators.

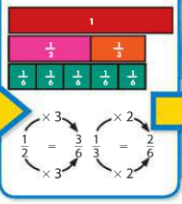
Multiples of 2: 2, 4, 6, 8, 10, 12, . . .

Multiples of 3: 3, 6, 9, 12, . . .

The LCM is 6, so the LCD is 6.

Step 2

Write the equivalent fractions.



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Problem Solving

23. Cindy added $\frac{7}{8}$ cup of water to $\frac{1}{4}$ cup of juice concentrate. How much juice did Cindy make? $1\frac{1}{8}$ **cups**

24. Abdul bought 10 packages of string cheese. If each package costs $1.59, how much did Abdul spend? **$15.90**

25. Mr. Perez is building a fence. He wants to bolt together 2 boards. One is $\frac{3}{4}$ inches thick and the other is $\frac{7}{8}$ inches thick. What will be the total thickness of the 2 boards? $1\frac{5}{8}$ **inches**

26. About $\frac{1}{10}$ of the bones in your body are in your skull. Your hands have about $\frac{1}{4}$ of the bones in your body. What fraction of the bones in your body are in your hands and skull? $\frac{7}{20}$

27. Number Sense At an auction, the bid for a painting starts at $150,000. The next bid is $170,000. The next 2 bids are $190,000 and $210,000. If the pattern continues, what is the next bid? **$230,000**

28. Dennis spent $\frac{1}{4}$ hour walking his dog. He spent another $\frac{1}{3}$ hour giving it food and water. What fraction of an hour did Dennis spend with the dog? $\frac{7}{12}$ **hour**

29. Native Americans made baskets like this one in the early 1900s. If two sides of the triangle shown on the basket measure $\frac{1}{4}$ in., and the third side measures $\frac{3}{8}$ in., what is the perimeter of the triangle? $\frac{7}{8}$ **in.**

30. A girls' club is selling hats to raise money. They ordered 500 hats that cost $5.15 each. They will sell the hats for $18.50 each. All the hats were sold. Which expression shows how to find the amount of money the club made after expenses?

A 500 × (18.50 + 5.15)

B (500 × 18.50) + (500 × 5.15)

C (500 × 5.15) − (500 × 18.50)

D 500 × (18.50 − 5.15)

Problem Solving

Exercise	Content
23	Adding Fractions $\left(\frac{7}{8} + \frac{1}{4}\right)$
24	Multiplication ($1.59 × 10)
25	Adding Fractions $\left(\frac{3}{4} + \frac{7}{8}\right)$
26	Adding Fractions $\left(\frac{1}{10} + \frac{1}{4}\right)$
27	Finding a Pattern
28	Adding Fractions $\left(\frac{1}{4} + \frac{1}{3}\right)$
29	Adding Fractions $\left(\frac{1}{4} + \frac{1}{4} + \frac{3}{8}\right)$
30	Multiple Step [500 × (18.50 − 5.15)]

Students use underlying processes and mathematical tools for Exercises 23–30. Remind students to check for reasonableness when solving each problem.

Exercise 30

Test-Taking Tip: Make a Plan Remind students that the income is the sale price minus the cost. ***How much money was made on the sale of each hat?*** [$13.35] ***How many hats were sold?*** [500] ***How do you find the total amount of money made?*** [Multiply 500 by $13.35.]

Early Finishers ***In addition, Dennis spent $\frac{1}{2}$ hour training the dog. What was the total amount of time he spent with the dog?*** [$1\frac{1}{12}$ hours]