# PRACTICE GAME  Picture Problems

$3\frac{1}{2}$ — $\frac{4}{6}$

$\frac{7}{8}$   $1\frac{1}{4}$   $\frac{1}{2}$   $4\frac{3}{4}$   $\frac{4}{6}$   $1\frac{3}{8}$   $\frac{3}{4}$   $2\frac{1}{4}$   $\frac{5}{6}$   $3\frac{2}{8}$   $\frac{5}{8}$   $3\frac{1}{2}$   $\frac{1}{4}$   $4\frac{1}{2}$   $\frac{1}{8}$   $4\frac{1}{10}$

## Start!

- Players write the fractions and mixed numbers shown above on index cards.

- A player shuffles the cards and places them facedown in a stack.

- The first player selects two cards. The player draws a picture that represents a subtraction problem using the two fractions. The pictures use completely shaded circles for whole numbers and partially shaded circles for fractions.

- The other three players use the picture to solve the subtraction problem. Each player with the correct answer earns one point.

- The next player then selects two cards, an play continues.

- The player with the most points after all the fraction cards have been used wins the game. If there is a tie, shuffle and continu play until a winner is determined.

# What's the Difference

**Players**
4 students

**Materials**
4 sets of number cards (1–8)



## Start Playing!

- Each player draws a problem outline on a sheet of paper.

- The first player shuffles the number cards and hands out 4 cards to each player.

- Players use their cards to form two fractions that will have the least possible difference. Players display their subtraction problems by placing the cards on their problem outlines.

- Players solve one another's problems to determine which yields the least differe

- The player who makes the problem wit the least difference gets 1 point and reshuffles the cards for the next round.

- The first player to score 5 points wins the game.

Practice Game

## Learn the Math

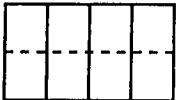$\frac{2}{4}$ and $\frac{1}{2}$ are **equivalent fractions** because they name the same amount.
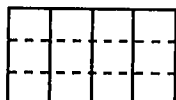


$\frac{2}{4}$      $\frac{1}{2}$

**Vocabulary**

equivalent fractions

Find equivalent fractions for $\frac{3}{4}$.

**One Way** Use area models. Use three rectangles of the same size and shape.

| **Step 1 Rectangle 1** | **Step 2 Rectangle 2** | **Step 3 Rectangle 3** |
|---|---|---|
| Shade the figure to show $\frac{3}{4}$. | Trace the dashed line to divide the figure into equal parts. Then shade to show a fraction equivalent to $\frac{3}{4}$. | Trace the dashed lines to divide the figure into equal parts. Then shade to show another fraction equivalent to $\frac{3}{4}$. |
|  |  $\frac{3}{4} = \dfrac{\square}{\square}$ |  $\frac{3}{4} = \dfrac{\square}{\square}$ |

**Another Way** Use counters to build equivalent sets.

| **Step 1** | **Step 2** | **Step 3** |
|---|---|---|
| Use counters to model $\frac{3}{4}$. | Use more counters to build a set equivalent to $\frac{3}{4}$. | Repeat Step 2 to build another set equivalent to $\frac{3}{4}$. |
|  |  $\frac{3}{4} = \dfrac{\square}{\square}$ |  $\frac{3}{4} = \dfrac{\square}{\square}$ |

- How many eighths are equal to $\frac{3}{4}$? _____    • How many twelfths are equal to $\frac{3}{4}$? _____
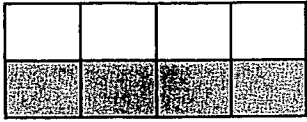
So, two fractions equivalent to $\frac{3}{4}$ are _____ and _____.

**REASONING** Why can you find fractions equivalent to $\frac{3}{4}$ using area models or equivalent sets for eighths and twelfths, but not fifths?

_____

**Do the Math**

Skill **7**

1. Use the area model to find fractions equivalent to $\frac{1}{2}$.

- The shaded area represents $\frac{1}{2}$.

- How many fourths are equal to $\frac{1}{2}$? _____

- How many eighths are equal to $\frac{1}{2}$? _____

So, two fractions equivalent to $\frac{1}{2}$ are _____ and _____.

**Remember**

- Equivalent fractions name the same amount with different numbers.
- Use area models or equivalent sets to find equivalent fractions.
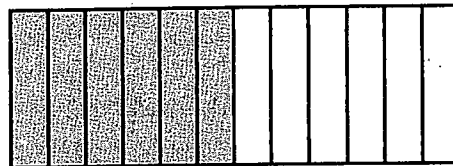
**Write two equivalent fractions for each picture.**

2.
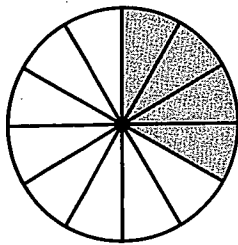
$\frac{1}{3}$ is equivalent to _____ and _____.

3.

$\frac{1}{2}$ is equivalent to _____ and _____.

4.
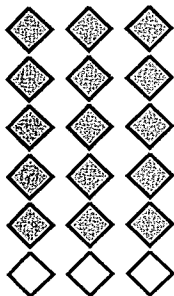
$\frac{5}{6}$ is equivalent to _____ and _____.

5.
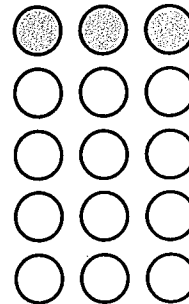
$\frac{1}{5}$ is equivalent to _____ and _____.

6. Heather, Ben, and James share a fruit salad for dessert. Heather eats $\frac{1}{4}$ of the fruit salad. Ben eats $\frac{2}{8}$ of the fruit salad. James eats $\frac{3}{6}$ of the fruit salad. Which two people eat the same amount of fruit salad? Explain.

**IN28 Strategic Intervention**

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Name _____

## Learn the Math

You can add and subtract fractions with like denominators.

**Example 1**  Add. $\frac{3}{8} + \frac{4}{8}$

- Shade the sections of the circle to represent each addend.

  How many sections out of the whole are shaded? _____

- Record the sum.
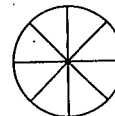  Add the numerators and write the sum of the numerators.
  The denominator remains the same.

  $\frac{3}{8} + \frac{4}{8} = \frac{\square}{\square}$

- Write the sum in simplest form.  $\frac{\square}{\square}$

  So, $\frac{3}{8} + \frac{4}{8} =$ _____ .

**Example 2**  Subtract. $\frac{3}{8} - \frac{1}{8}$

- Shade 3 of 8 sections to represent $\frac{3}{8}$.

- Cross out 1 shaded section to represent subtracting $\frac{1}{8}$.

  How many shaded sections of the whole are not crossed out? _____

- Record the difference.
  Subtract the numerators and write the difference of the numerators.
  The denominator remains the same.

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

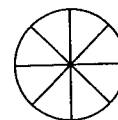- Write the difference in simplest form.  $\frac{\square}{\square}$

  So, $\frac{3}{8} - \frac{1}{8} =$ _____ .

**REASONING** Marcus says $\frac{1}{4} + \frac{2}{4} = \frac{3}{8}$. Is he correct? Explain.

_____

_____

## Do the Math

**1.** Add. Write the sum in simplest form.

$$\frac{3}{6} + \frac{2}{6}$$

- Shade 3 parts.
- Shade 2 more parts.
- Write the fraction for the part that is shaded. _____

So, $\frac{3}{6} + \frac{2}{6} =$ _____.

**Write the sum or difference in simplest form.**

**2.** $\frac{3}{5} - \frac{2}{5} =$ _____

**3.** $\frac{4}{10} + \frac{2}{10} =$ _____

**4.** $\frac{6}{8} + \frac{1}{8} =$ _____

**5.** $\frac{5}{6} - \frac{2}{6} =$ _____

**6.** $\frac{8}{12} + \frac{2}{12} =$ _____

**7.** $\frac{7}{10} - \frac{3}{10} =$ _____

**8.** $\frac{4}{5} - \frac{2}{5} =$ _____

**9.** $\frac{1}{8} + \frac{5}{8} =$ _____

**10.** $\frac{7}{11} - \frac{3}{11} =$ _____

**11.** $\frac{5}{8} + \frac{2}{8} =$ _____

**12.** $\frac{3}{4} - \frac{1}{4} =$ _____

**13.** $\frac{1}{3} + \frac{1}{3} =$ _____

**14.** $\frac{1}{9} + \frac{2}{9} =$ _____

**15.** $\frac{3}{5} + \frac{2}{5} =$ _____

**16.** $\frac{6}{10} - \frac{3}{10} =$ _____

**17.** $\frac{5}{9} + \frac{1}{9} =$ _____

**18.** $\frac{7}{12} - \frac{3}{12} =$ _____

**19.** Sandy, Brian, and Jacky are the editors of the school magazine. For the new issue, Sandy edits $\frac{4}{9}$ of the magazine, and Jacky edits $\frac{2}{9}$. What fraction of the magazine do Sandy and Jacky edit together?

_____

**20.** Tim and Tomas are preparing for a race. During practice, Tim runs $\frac{6}{7}$ of a mile and Tomas runs $\frac{2}{7}$ of a mile. How much farther does Tim run?

_____

# Addition with Unlike Denominators

Karen is stringing a necklace with beads. She puts green beads on $\frac{1}{2}$ of the string and purple beads on $\frac{3}{10}$ of the string. How much of the string does Karen cover with beads?

You can use fraction strips to help you add fractions with unlike denominators. Trade fraction strips of fractions with unlike denominators for equivalent strips of fractions with like denominators.

**Use fraction strips to find the sum. Write your answer in simplest form.**

$\frac{1}{2} + \frac{3}{10}$

**Step 1**    Use a $\frac{1}{2}$ strip and three $\frac{1}{10}$ strips to model fractions with unlike denominators.
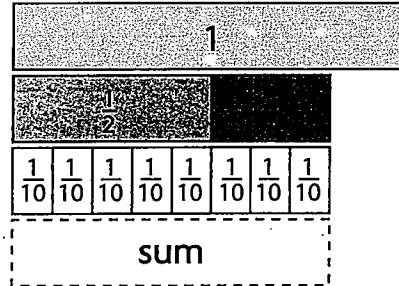
**Step 2**    Trade the $\frac{1}{2}$ strip for five $\frac{1}{10}$ strips.

$$\frac{1}{2} + \frac{3}{10} = \frac{5}{10} + \frac{3}{10}$$

**Step 3**    Add the fractions with like denominators.

$$\frac{5}{10} + \frac{3}{10} = \frac{8}{10}$$

**Step 4**    Write the answer in simplest form.

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

So, Karen covers $\frac{4}{5}$ of the string with beads.

**Use fraction strips to find the sum. Write your answer in simplest form.**
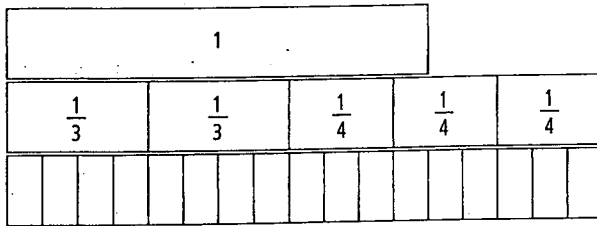
**1.** $\frac{3}{8} + \frac{3}{4}$        **2.** $\frac{2}{3} + \frac{1}{4}$        **3.** $\frac{5}{6} + \frac{7}{12}$
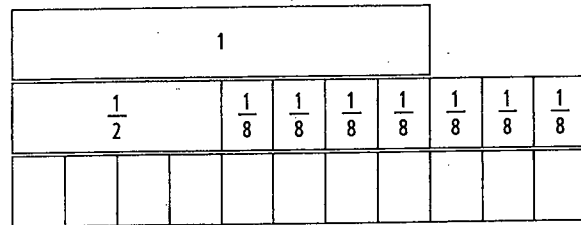
# A Fraction Strip Above the Rest

**Use fraction strips to find the sum. Add the fractions and answer the following questions.**

| 1 |
|---|

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

| 1 |
|---|

| $\frac{1}{2}$ | $\frac{1}{8}$ | $\frac{1}{8}$ | $\frac{1}{8}$ | $\frac{1}{8}$ | $\frac{1}{8}$ | $\frac{1}{8}$ | $\frac{1}{8}$ |
|---|---|---|---|---|---|---|---|

**1.** What fraction represents each fraction strip on the bottom row?

_____

**2.** Write the total amount shown by the fraction strips on the bottom row.

_____

**3.** Write the equation shown by the fraction strips in the second row.

_____

**4.** What fraction represents each fraction strip on the bottom row?

_____

**5.** Write the total amount shown by the fraction strips on the bottom row.

_____

**6.** Write the equation shown by the fraction strips in the second row.

_____

**7.** **Write Math** If you add another $\frac{1}{4}$ to the second row of the model on the left, could you find the sum using the fraction strips in the second row?

_____

_____

**8. Stretch Your Thinking** If you add another $\frac{1}{8}$ to the second row of the model on the right, how would your equation and answer change?

_____