

**Skill: Estimating With Fractions**

**Investigation 1**

Let's Be Rational

Write the fraction shown by each model. Then determine whether the number is closest to 0,  $\frac{1}{2}$ , or 1.



$$\frac{5}{8} > \frac{1}{2}$$



$$\frac{9}{10} > 1$$

Estimate each sum. Use the benchmarks 0,  $\frac{1}{2}$ , and 1.

3.  $\frac{5}{16} + \frac{5}{8}$

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

4.  $\frac{10}{12} + \frac{4}{5}$

$$1 + 1 = 2$$

5.  $\frac{1}{10} + \frac{1}{2}$

$$0 + \frac{1}{2} = \frac{1}{2}$$

6.  $\frac{3}{4} + \frac{3}{8}$

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

7.  $\frac{1}{12} + \frac{6}{11}$

$$0 + \frac{1}{2} = \frac{1}{2}$$

8.  $\frac{8}{14} + \frac{4}{7}$

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

Find each sum or difference.

1.  $4\frac{3}{10} + 5\frac{2}{5}$

$$4\frac{3}{10} + 5\frac{4}{10} = 9\frac{7}{10}$$

2.  $3\frac{7}{8} + 2\frac{1}{2}$

$$3\frac{7}{8} + 2\frac{4}{8} = 5\frac{11}{8} = 6\frac{3}{8}$$

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

$$5\frac{8}{12} + 3\frac{3}{12} = 8\frac{11}{12}$$

4.  $5\frac{3}{16} - 2\frac{3}{8}$

$$5\frac{3}{16} - 2\frac{6}{16}$$

$$4\frac{19}{16} - 2\frac{6}{16} = 2\frac{13}{16}$$

5.  $8\frac{1}{6} - 3\frac{2}{5}$

$$8\frac{5}{30} - 3\frac{12}{30}$$

$$7\frac{35}{30} - 3\frac{12}{30} = 4\frac{23}{30}$$

6.  $7\frac{1}{2} - 3$

$$7\frac{1}{2} - 3 = 4\frac{1}{2}$$

7. Sam grew three pumpkins for the pumpkin growing contest. The pumpkins weighed  $24\frac{1}{8}$  pounds,  $18\frac{2}{4}$  pounds, and  $32\frac{5}{16}$  pounds. Find the combined total weight of Sam's pumpkins.

$$24\frac{1}{8} + 18\frac{2}{4} + 32\frac{5}{16} =$$

$$24\frac{2}{16} + 18\frac{8}{16} + 32\frac{5}{16} = 74\frac{15}{16} \text{ pounds}$$

# Additional Practice: Digital Assessments

## Investigation 1

### Let's Be Rational

10. Circle the number that makes each statement true.

a.  $\frac{1}{6} + \frac{2}{3} = \left[ \begin{array}{c} \frac{1}{3} \\ \frac{5}{6} \\ \frac{7}{6} \\ \frac{6}{6} \end{array} \right]$

*Handwritten:*  $\frac{1}{6} + \frac{4}{6}$

b.  $8 - 2\frac{2}{3} = \left[ \begin{array}{c} 2\frac{1}{3} \\ 3\frac{2}{3} \\ 4\frac{1}{3} \end{array} \right]$

*Handwritten:*  $4\frac{3}{3} - 2\frac{2}{3}$

11. To follow a recipe, Jared has to mix the following liquids:  $\frac{3}{4}$  cup of water,  $\frac{1}{8}$  cup of coconut oil, and  $\frac{3}{8}$  cup of eggs. Which represent how many cups of liquid are in the mixture? *Select all that apply.*

- $\frac{7}{20}$
  - $\frac{7}{8}$
  - $\frac{5}{4}$
  - $1\frac{1}{4}$
  - $1\frac{1}{2}$
- Handwritten calculations:*
- $$2 \times \frac{3}{4} + \frac{1}{8} + \frac{3}{8}$$
- $$\frac{6}{8} + \frac{1}{8} + \frac{3}{8} = \frac{10}{8}$$
- $$= 1\frac{2}{8}$$
- $$= 1\frac{1}{4}$$

12. Write each expression in the box with the correct category.

$\frac{3}{10} + \frac{1}{2}$  ✓      $\frac{2}{5} + \frac{2}{7}$       $\frac{1}{2} + \frac{3}{5}$  ✓

$\frac{1}{6} + \frac{3}{4}$  ✓      $\frac{2}{7} + \frac{2}{9}$  ✓      $\frac{1}{4} + \frac{5}{6}$  ✓

**Sum Greater than 1**

$\frac{1}{2} + \frac{3}{5}$       $\frac{1}{4} + \frac{5}{6}$

**Sum Less than 1**

$\frac{3}{10} + \frac{1}{2}$       $\frac{1}{6} + \frac{3}{4}$

$\frac{2}{7} + \frac{2}{9}$       $\frac{2}{5} + \frac{2}{7}$