Name _____

Set A pages 325–330

Is 6 a prime or composite number?

A prime number is a whole number with no other factors besides 1 and itself.

A composite number is a number that is not prime; it has factors other than 1 and itself.

Factors of 6: 1 and 6, and 2 and 3

The number 6 is composite.

Is 47 a prime or composite number?

Since the only factors of 47 are 1 and 47, it is a prime number.

Remember that a prime number is a whole number greater than 1, and has only two factors, 1 and itself.

Classify each as prime or composite.

1. 11
2. 15
3. 18
4. 19
5. 27
6. 33
7. 200
8. 555

Set B pages 331–336, 337–342

Write $\frac{21}{36}$ in simplest form.

To express a fraction in simplest form, find an equivalent fraction with the least numerator and denominator possible. Divide the numerator and denominator by common factors until the only common factor is 1.

$$\frac{21 \div 3}{36 \div 3} = \frac{7}{12}$$

Remember to make sure there is no number other than 1 that can divide the numerator and denominator evenly.

Write each fraction in simplest form.

1. $\frac{45}{60}$

2. $\frac{32}{96}$

3. $\frac{24}{30}$

4. $\frac{42}{49}$

Find $\frac{5}{6} - \frac{3}{4}$.

Step 1 Find common multiples of 6 and 4.

The least common multiple is 12, so use 12 as the common denominator.

Step 2 Use the Identity Property to write equivalent fractions.

$$\frac{5}{6} = \frac{5 \times 2}{6 \times 2} = \frac{10}{12} \quad \frac{3}{4} = \frac{3 \times 3}{4 \times 3} = \frac{9}{12}$$

Step 3 Subtract. Simplify, if necessary.

$$\frac{10}{12} - \frac{9}{12} = \frac{1}{12}$$

Remember to multiply the numerator and denominator by the same number when writing an equivalent fraction.

1. $\frac{2}{5} + \frac{3}{10}$ 2. $\frac{1}{9} + \frac{5}{6}$

3. $\frac{3}{4} - \frac{5}{12}$ 4. $\frac{7}{8} - \frac{2}{3}$

5. Teresa spends $\frac{1}{3}$ of her day at school. She spends $\frac{1}{12}$ of her day eating meals. What is the total part of the day that Teresa spends at school and eating meals? Simplify, if necessary.

Tina and Andy are building a model airplane. Tina built $\frac{1}{3}$ of the model, and Andy built $\frac{1}{5}$. How much more has Tina built than Andy?

Tina	$\frac{1}{3}$	

Andy	$\frac{1}{5}$	x

Find a common denominator and subtract.

$\frac{1}{3} = \frac{5}{15}$ $\frac{1}{5} = \frac{3}{15}$ So, $x = \frac{5}{15} - \frac{3}{15} = \frac{2}{15}$

Tina built $\frac{2}{15}$ more of the model than Andy.

Remember to draw a strip diagram to help you write an equation.

1. Bonnie ran $\frac{1}{4}$ of a mile. Olga ran $\frac{1}{8}$ of a mile. How far did they run in all?

2. Use your strip diagram to write and solve an equation to find how much farther Bonnie ran.

Name _____

Set A pages 389–394

Write $\frac{19}{3}$ as a mixed number.

- Divide the numerator by the denominator.

$$3\overline{)19} \quad 6\text{ R}1$$

- Write the remainder as a fraction in simplest form.

$$\frac{19}{3} = 6\frac{1}{3}$$

Write $9\frac{5}{8}$ as an improper fraction.

$9\frac{5}{8} = 9 + \frac{5}{8}$ and $9 + \frac{5}{8} = \frac{72}{8} + \frac{5}{8}$

So, $9\frac{5}{8} = \frac{77}{8}$.

Remember to always write the answer in simplest form.

Write each improper fraction as a mixed number or whole number.

1. $\frac{16}{6}$ 2. $\frac{24}{9}$ 3. $\frac{9}{2}$

Write each as an improper fraction.

4. $4\frac{5}{9}$ 5. $2\frac{7}{11}$ 6. $8\frac{5}{7}$

7. $5\frac{1}{3}$ 8. $10\frac{4}{5}$ 9. $8\frac{8}{11}$

10. $6\frac{3}{8}$ 11. $3\frac{4}{7}$ 12. $9\frac{7}{8}$

Set B pages 395–400

Estimate $5\frac{1}{3} + 9\frac{9}{11}$.

Compare fractions to $\frac{1}{2}$ to round to the nearest whole number.

Round fractions that are less than $\frac{1}{2}$ to the nearest lesser whole number.

$5\frac{1}{3}$ rounds to 5.

Remember that you can also use benchmark fractions such as $\frac{1}{4}, \frac{1}{3}, \frac{1}{2}, \frac{2}{3}$, and $\frac{3}{4}$ to help you estimate.

Round to the nearest whole number.

1. $2\frac{9}{10}$ 2. $9\frac{19}{20}$ 3. $6\frac{2}{7}$

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

Step 1 Write equivalent fractions with a common denominator.

$$1\frac{5}{6} = 1\frac{20}{24}$$
$$+ 2\frac{3}{8} = 2\frac{9}{24}$$
$$3\frac{29}{24} = 4\frac{5}{24}$$

Step 2 Add the fractions.

Step 3 Add the whole numbers. Rename improper fractions. Simplify the sum.

Remember that mixed numbers are added the same way whole numbers and fractions are added.

Find each sum. Simplify, if possible. You may use fraction strips to help.

1. $5\frac{1}{2} + 2\frac{1}{8}$

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

3. $5\frac{7}{10} + 4\frac{2}{5}$

4. $7\frac{3}{5} + 6\frac{2}{3}$

5. $8\frac{5}{9} + 9\frac{1}{3}$

6. $2\frac{5}{12} + 3\frac{3}{4}$

Find $5\frac{1}{5} - 3\frac{1}{2}$.

Step 1 Write equivalent fractions with a common denominator.

$$5\frac{1}{5} = 5\frac{2}{10} = 4\frac{12}{10}$$
$$- 3\frac{1}{2} = 3\frac{5}{10} = 3\frac{5}{10}$$
$$1\frac{7}{10}$$

Step 2 Rename $5\frac{2}{10}$ to show more tenths.

Step 3 Subtract the fractions. Subtract the whole numbers. Simplify the difference.

Remember that subtracting mixed numbers may require renaming.

Find each difference. Simplify, if possible. You may use fraction strips to help.

1. $7\frac{5}{6} - 3\frac{2}{3}$

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

3. $5\frac{2}{3} - 4\frac{5}{6}$

4. $9 - 3\frac{3}{8}$

5. $3\frac{1}{9} - 1\frac{1}{3}$

6. $6\frac{1}{4} - 3\frac{2}{5}$

7. $9\frac{1}{4} - 2\frac{5}{8}$

8. $4 - 1\frac{2}{5}$

Gil has two lengths of wallpaper, $2\frac{3}{4}$ yards and $1\frac{7}{8}$ yards long. He used some and now has $1\frac{5}{6}$ yards left. How many yards of wallpaper did Gil use?

Remember when you add or subtract mixed numbers, rename the fractional part to have a common denominator.

Simplify each expression.

Step 1

Add to find the total amount of wallpaper Gil has.

$$2\frac{3}{4} = 2\frac{18}{24}$$
$$+ 1\frac{7}{8} = 1\frac{21}{24}$$
$$\overline{4\frac{5}{8}}$$

Step 2

Subtract to find the amount of wallpaper Gil used.

$$4\frac{5}{8} = 3\frac{39}{24}$$
$$- 1\frac{5}{6} = 1\frac{20}{24}$$
$$\overline{2\frac{19}{24}}$$

Gil used $2\frac{19}{24}$ yards of wallpaper.

1. $\left(2\frac{1}{6} + 3\frac{3}{4}\right) - 1\frac{5}{12}$

2. $\left(4\frac{4}{5} + 7\frac{1}{3}\right) - 1\frac{7}{15}$

3. $\left(8\frac{3}{8} - 4\frac{5}{6}\right) + 1\frac{11}{24}$

4. $2\frac{9}{25} + 2\frac{9}{50} + 2\frac{1}{100}$

Sophie and Ryan picked apples. Sophie picked $3\frac{1}{2}$ pounds of apples. Ryan picked $4\frac{5}{8}$ pounds of apples. How many more pounds of apples did Ryan pick than Sophie?

Ryan	$4\frac{5}{8}$	
Sophie	$3\frac{1}{2}$	x

Write an equation. Let x represent how many more pounds of apples Ryan picked.

$$3\frac{1}{2} + x = 4\frac{5}{8} \text{ or } x = 4\frac{5}{8} - 3\frac{1}{2}$$

Find a common denominator and subtract.

$$4\frac{5}{8} = 4\frac{5}{8}$$
$$- 3\frac{1}{2} = 3\frac{4}{8}$$
$$\overline{1\frac{1}{8}}$$

Ryan picked $1\frac{1}{8}$ pounds more apples than Sophie.

Remember that a strip diagram can help you write an addition or a subtraction equation.

Draw a picture and write an equation to solve.

1. Justin jogs $3\frac{2}{5}$ miles every morning. He jogs $4\frac{6}{10}$ miles every evening. How many miles does he jog every day?

2. Last year Mia planted a tree that was $5\frac{11}{12}$ feet tall. This year the tree is $7\frac{2}{3}$ feet tall. How many feet did the tree grow?