

NAME _____

Module 4 Fractions, Decimals, Percents, and Factors
Lesson 5 Simplifying and Converting Fractions

Challenge Problems

4.5

Set 1

1 Is the fraction $\frac{4}{6}$ in simplest form? Explain how you know.

2 Write three fractions that are equivalent to $\frac{1}{2}$. Describe or model a situation that represents each fraction.

Set 2

1 Write $\frac{10}{2}$ in simplest form. Explain why the answer is not a fraction.

2 When does an improper fraction represent a whole number? Explain how you know.

Possible Answers

Set 1

1. No, the fraction is not in simplest form. To be in simplest form, the numerator and denominator can not have any common factors other than one. Four is two times two. Six is two times three. Since four and six have a common factor, two, the fraction four sixths is not in simplest form. The fraction can be simplified to two thirds.
2. Any model showing a fraction equivalent to one half should have exactly half of its equal parts shaded.



Three sixths is the same as one half because both models show the same portion of the whole shaded.

Five out of 10 homework assignments completed is the same as one half of the homework assignments completed.

Fifty hundredths is also equivalent to one half. Answering 50 out of 100 test questions correctly is the same as answering half the questions correctly.

Set 2

1. To write 10 halves in simplest form, find the common factor, two. Divide 10 by two and two by two. The numerator is five and the denominator is one.

The fraction five over one is the same as the whole number five. Five over one is an improper fraction, but in simplest form it is the whole number five. So, 10 halves is the same as five.

2. An improper fraction represents a whole number when the denominator is divided into the numerator and the results are a whole number with remainder zero.