

★ Independent Worksheet 1



INDEPENDENT WORKSHEET

Using the Greatest Common Factor to Simplify Fractions

1 Write all the factors of each number below. Try to think of the factors in pairs.

ex. 2 1, 2

a 4 _____

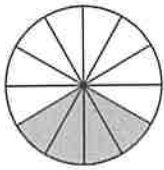
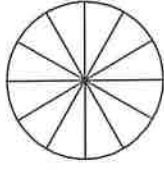
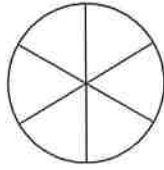
b 8 _____

c 3 _____

d 6 _____

e 12 _____

2 You can simplify a fraction by dividing the numerator and the denominator by the same number. If you divide the numerator and denominator by the largest factor they have in common (the greatest common factor), you can show the fraction in its simplest form. Look carefully at the example below. Then fill in the rest of the table.

Fraction	Factors of the Numerator (Top Number)	Factors of the Denominator (Bottom Number)	Greatest Common Factor	Divide to Get the Simplest Form	Picture and Equation
ex. $\frac{4}{12}$	1, 2, ④	1, 2, 3 ④, 6, 12	4	$\frac{4 \div 4}{12 \div 4} = \frac{1}{3}$	 $\frac{4}{12} = \frac{1}{3}$
a $\frac{8}{12}$				$\frac{8 \div}{12 \div} = \frac{\quad}{\quad}$	 $\frac{8}{12} = \frac{\quad}{\quad}$
b $\frac{4}{12}$				$\frac{4 \div}{6 \div} = \frac{\quad}{\quad}$	 $\frac{4}{6} = \frac{\quad}{\quad}$

Independent Worksheet 1 Using the Greatest Common Factor to Simplify Fractions (cont.)

3 Find the greatest common factor of each pair of numbers below.

<p>example 6 and 16</p> <p>Factors of 6 <u>①2, 3, 6</u></p> <p>Factors of 16 <u>①2, 4, 8, 16</u></p> <p>Greatest Common Factor of 6 and 16 <u>2</u></p>	<p>a 6 and 21</p> <p>Factors of 6 _____</p> <p>Factors of 21 _____</p> <p>Greatest Common Factor of 6 and 21 _____</p>
<p>b 8 and 24</p> <p>Factors of 8 _____</p> <p>Factors of 24 _____</p> <p>Greatest Common Factor of 8 and 24 _____</p>	<p>c 18 and 24</p> <p>Factors of 18 _____</p> <p>Factors of 24 _____</p> <p>Greatest Common Factor of 18 and 24 _____</p>

4 Use your answers from problem 3 to simplify these fractions.

<p>example $\frac{6 \div 2}{12 \div 2} = \frac{3}{8}$ $\frac{6}{16} = \frac{3}{8}$</p>	<p>a $\frac{6}{21}$</p>
<p>b $\frac{8}{24}$</p>	<p>c $\frac{18}{24}$</p>

5 A fraction is in its simplest form when its numerator and denominator have no common factor other than 1. Look at the fractions below.

- Circle the fractions that can be simplified.
- Put a line under the fractions that are already in simplest form.

$$\frac{3}{6} \quad \frac{5}{8} \quad \frac{4}{10} \quad \frac{12}{15} \quad \frac{2}{7} \quad \frac{8}{14} \quad \frac{3}{13}$$

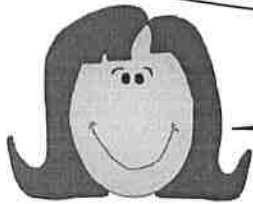
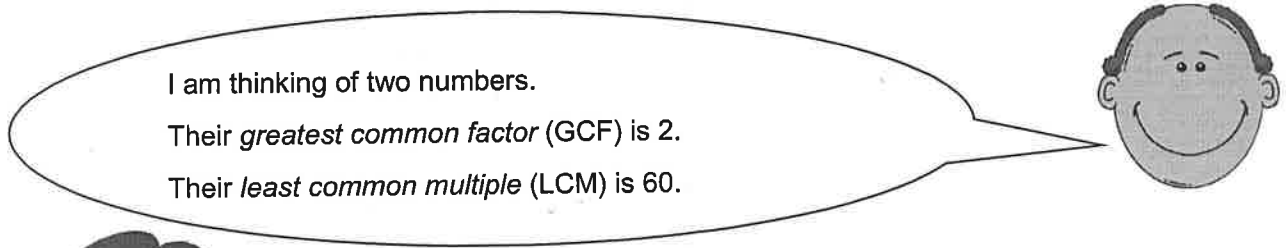
6 Choose three of the fractions in problem 5 that can be simplified. Simplify them below. Show your work.

Thinking of Two Numbers

1. What is the *greatest common factor* of 15 and 25?
2. What is the *least common multiple* of 15 and 25?
3. In your own words, try to explain how you can find the *greatest common factor* (GCF) of any two numbers. (Use an example to explain your method, if you find it helps.)

4. In your own words, try to explain how you can find the *least common multiple* (LCM) of any two numbers. (Use an example to explain your method, if you find it helps.)

5. Moses and Leillah are playing a game called "Guess My Numbers".



Your numbers must be 10 and 12.

Is Leillah right?

If you agree with Leillah, explain how you know that these numbers, and only these numbers, work. If you disagree, find *all possible pairs* of numbers that Moses might be thinking of.
