**Lesson 6**

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| Topic Goal: How to find equivalent fractions |

To find an equivalent fraction you can:

**Multiply** the numerator and denominator by the **SAME** whole number.

$\frac{4 X3}{7X3}$ = $\frac{12}{21}$

$$\frac{4}{7} and \frac{12}{21} are now equivalent fractions$$

OR

**Divide** the numerator and denominator by the **SAME** greatest common factor (GCF).

*Hint: The greatest common factor is the largest number that divides into the numerator and denominator exactly.*

$$\frac{6÷6}{24÷6}= \frac{1}{4}$$

$\frac{6}{24} and \frac{1}{4}$ are now equivalent fractions.

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| Example(s):  |

Write 2 equivalent fractions for each of the following.

$$a) \frac{2}{3}$$

$\frac{2}{3}$ = $\frac{2 × 4}{3 × 4}= \frac{8}{12}$

$\frac{2}{3}$ = $\frac{2 × 5}{3 × 5}= \frac{10}{15}$

$$b) \frac{3}{9}$$

$$\frac{3÷3}{9÷3} = \frac{1}{3}$$

$$\frac{3 × 2}{9 × 2} = \frac{6}{18}$$

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|  Practice Questions:  |

1. Write an equivalent fraction for each of these using the multiplication or division.

a. $\frac{1}{6} (×3)$

b. $\frac{2}{20 } (÷2)$

c. $\frac{9}{2} (×6)$

d. $\frac{5}{30} (÷5)$

2. What’s the pattern? Fill in the blanks.

$$\frac{5}{7} = \frac{10}{14} = \frac{15}{21} = \frac{20}{28} = \frac{}{}$$

$$\frac{1}{3} = \frac{}{} = \frac{5}{15} = \frac{7}{21} = \frac{9}{27}$$

$$\frac{9}{2} = \frac{18}{4} = \frac{27}{6} = \frac{36}{8} = \frac{}{}$$

$$\frac{8}{5} = \frac{16}{10} = \frac{24}{15} = \frac{}{}= \frac{40}{25}$$

$$\frac{1}{6} = \frac{}{} = \frac{3}{18} = \frac{4}{24} = \frac{5}{30}$$

3. Choose the correct equivalent fraction.

$$\frac{12}{18} = ? a) \frac{4}{9} b) \frac{1}{6} c) \frac{2}{3} d) \frac{3}{2}$$

$$\frac{5}{15} = ? a) \frac{10}{40} b) \frac{7}{21} c) \frac{13}{26} d) \frac{3}{18}$$

$$\frac{2}{3} = ? a) \frac{2}{12} b) \frac{4}{16} c) \frac{2}{20} d) \frac{4}{6}$$

$$\frac{14}{16} = ? a) \frac{3}{18} b) \frac{1}{8} c) \frac{7}{8} d) \frac{35}{25}$$

Extension: 

What happens if one of the values of your equivalent fractions is unknown? How would you solve for this value?

Let’s say that you have the following equivalent fractions:

$$\frac{5}{6}= \frac{n}{24}$$

How would you solve for “*n*”?

Because these fractions are **equivalent**, whatever happens to the denominator must **also** happen to the numerator.

That means that you must make the denominators of both fractions the same number.

Ask yourself, what can I multiply 6 by to get 24?

The answer? 4

Now, go ahead and multiply the numerator by 4 as well and see what happens?

$$\frac{5 × 4}{6 × 4 } = \frac{20}{24}$$

Therefore, “*n”*  is 20. Because $ \frac{5}{4} = \frac{20}{24}$

Let’ s practice our new skill.

Fill in the missing numbers.

$\frac{27}{36} = \frac{}{4}$ $\frac{16}{11} = \frac{}{22}$ $\frac{20}{} = \frac{5}{3}$

$\frac{2}{8} = \frac{20}{}$ $\frac{10}{9} = \frac{70}{}$ $\frac{2}{10} = \frac{}{20}$

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|  Assessment:  |

1. Shade in the second shape and complete the equivalent fraction.

***Remember to make an equivalent fraction you can multiply OR divide the numerator and the denominator by the same number.***

  

$$ \frac{3}{7} = \frac{}{ 14}$$

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| http://www.homeschoolmath.net/worksheets/fraction-images/6-9.gif |   | http://www.homeschoolmath.net/worksheets/fraction-images/0-3.gif |

$$ \frac{6}{9} = \frac{}{ 3}$$

2. Complete the equivalent fractions below by finding out which common number to multiply the numerator and denominator with.

1. $\frac{1}{4} = \frac{4}{}$
2. $\frac{1}{2} = \frac{}{6}$
3. $\frac{6}{7} = \frac{12}{}$
4. $\frac{5}{8} = \frac{}{16}$
5. $\frac{2}{3} = \frac{}{15}$
6. $\frac{4}{5} = \frac{8}{}$
7. Shade in both shapes so that they are both equivalent. Don’t for get to also write the equivalent fraction.







