

Boost Free Lessons - Year 5 Maths

Lesson 10: Equivalent Fractions

Name: _____ Grade: _____ Date: _____

Worked Example 1

Show that $\frac{1}{2}$ and $\frac{3}{6}$ are equivalent.



one half



three sixths

1. **Equivalent** fractions look different but are worth the same amount.
2. Both bars are the same length, and the same amount is shaded in each.
3. To go from $\frac{1}{2}$ to $\frac{3}{6}$, multiply the top and bottom by 3.
4. Whatever you do to the numerator you must do to the denominator.

$$\frac{1}{2} = \frac{3}{6}$$

Worked Example 2

Simplify $\frac{12}{18}$.

1. Look for a number that divides into both the top and the bottom.
2. Both 12 and 18 divide by 6, which is the highest common factor.
3. $12 \div 6 = 2$ and $18 \div 6 = 3$.
4. That gives $\frac{2}{3}$. Nothing divides into both 2 and 3, so it is fully simplified.

$$\frac{12}{18} = \frac{2}{3}$$

Remember: **Equivalent** fractions are worth the same. Multiply or divide the **top and bottom** by the **same number**. To simplify, divide both by their highest common factor.



Question 1: Answer the following.

1. Complete: $\frac{1}{3} = \frac{?}{9}$

2. Complete: $\frac{2}{5} = \frac{?}{10}$

3. Complete: $\frac{3}{4} = \frac{?}{12}$

4. Complete: $\frac{1}{2} = \frac{?}{8}$

5. Simplify $\frac{4}{8}$

6. Simplify $\frac{6}{9}$

7. Simplify $\frac{10}{15}$

8. Simplify $\frac{8}{12}$



Question 2: Answer the following.

1. Simplify $\frac{15}{20}$.

2. Simplify $\frac{18}{24}$.

3. Which is larger, $\frac{2}{3}$ or $\frac{3}{5}$?

4. Which is larger, $\frac{3}{4}$ or $\frac{5}{8}$?

5. Write three fractions equivalent to $\frac{1}{4}$.

6. Order from smallest to largest: $\frac{1}{2}$, $\frac{2}{5}$, $\frac{3}{4}$.



Question 3: Answer the following questions.

1. Mia ate $\frac{2}{8}$ of a pizza and Sam ate $\frac{1}{4}$. Did they eat the same amount?
2. A jug is $\frac{6}{10}$ full. Write this fraction in its simplest form.
3. Of 20 students, 15 walk to school. Write this as a fraction in simplest form.
4. Explain why $\frac{3}{6}$, $\frac{4}{8}$ and $\frac{5}{10}$ are all equivalent.
5. A cake is cut into 12 slices and 8 are eaten. What fraction is left, in simplest form?





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Answers: Equivalent Fractions**Question 1**

1. $\frac{3}{9}$
2. $\frac{4}{10}$
3. $\frac{9}{12}$
4. $\frac{4}{8}$
5. $\frac{1}{2}$
6. $\frac{2}{3}$
7. $\frac{2}{3}$
8. $\frac{2}{3}$

Question 2

1. $\frac{3}{4}$
2. $\frac{3}{4}$
3. $\frac{2}{3}$
4. $\frac{3}{4}$
5. Model: $\frac{2}{8}$, $\frac{3}{12}$, $\frac{4}{16}$
6. $\frac{2}{5}$, $\frac{1}{2}$, $\frac{3}{4}$

Question 3

1. Yes, because $\frac{2}{8}$ simplifies to $\frac{1}{4}$
2. $\frac{3}{5}$
3. $\frac{3}{4}$
4. Each one simplifies to $\frac{1}{2}$, so they are all worth the same amount.
5. $\frac{1}{3}$

