



SKILL 11: Equivalent Fractions

If two fractions represent the same quantity, they are **equivalent**.

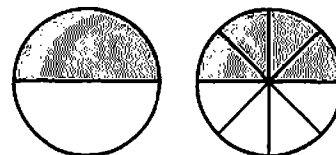
Example 1

Use a model to show that $\frac{1}{2}$ and $\frac{4}{8}$ are equivalent fractions.

Draw a circle divided into two parts and shade $\frac{1}{2}$.

Draw more lines to divide each half into 4 parts. This shows $\frac{4}{8}$.

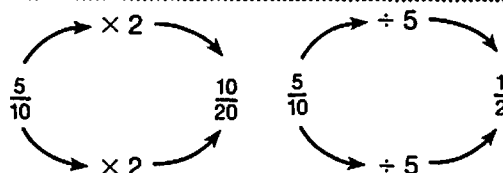
$$\frac{1}{2} = \frac{4}{8}$$



Example 2

Find two fractions that are equivalent to $\frac{5}{10}$.

Multiply or divide the numerator and the denominator by the same nonzero number. This is the same as multiplying or dividing the fraction by 1.



$$\begin{array}{l} \text{numerator} \rightarrow 5 \times 2 = 10 \\ \text{denominator} \rightarrow 10 \times 2 = 20 \end{array}$$

So, $\frac{5}{10}$ is equivalent to $\frac{10}{20}$.

$$\begin{array}{l} \text{numerator} \rightarrow 5 \div 5 = 1 \\ \text{denominator} \rightarrow 10 \div 5 = 2 \end{array}$$

So, $\frac{5}{10}$ is equivalent to $\frac{1}{2}$.

Guided Practice

1. Find a fraction equivalent to $\frac{2}{3}$.
Use the models at the right.

$$\frac{2}{3} = \underline{\hspace{2cm}}$$



2. Multiply to find an equivalent fraction.

$$\frac{2}{6} = \frac{2 \times \square}{6 \times \square} = \frac{\square}{\square}$$

3. Divide to find an equivalent fraction.

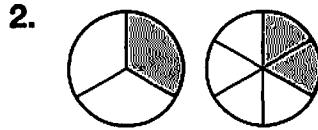
$$\frac{6}{8} = \frac{6 \div \square}{8 \div \square} = \frac{\square}{\square}$$

SKILL 11: Practice

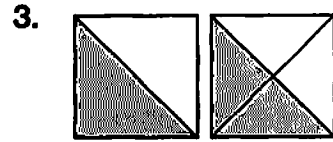
Use the models to find an equivalent fraction.



$\frac{2}{5} =$ _____



$\frac{1}{3} =$ _____



$\frac{1}{2} =$ _____

Multiply numerator and denominator by the given number to find an equivalent fraction.

4. $3; \frac{4}{7} =$ _____

5. $2; \frac{1}{6} =$ _____

6. $5; \frac{2}{3} =$ _____

7. $6; \frac{5}{8} =$ _____

8. $10; \frac{2}{11} =$ _____

9. $8; \frac{3}{5} =$ _____

Divide numerator and denominator by the given number to find an equivalent fraction.

10. $2; \frac{10}{12} =$ _____

11. $6; \frac{36}{42} =$ _____

12. $5; \frac{20}{30} =$ _____

13. $9; \frac{27}{45} =$ _____

14. $10; \frac{50}{80} =$ _____

15. $4; \frac{44}{64} =$ _____

16. Find an equivalent fraction for $\frac{10}{18}$ that has a smaller denominator.17. Find an equivalent fraction for $\frac{9}{14}$ that has a larger denominator.18. Find an equivalent fraction for $\frac{30}{36}$ that has a smaller denominator. Then find one with a larger denominator.19. Which is equivalent to $\frac{4}{5}$?

A $\frac{6}{7}$

C $\frac{4}{10}$

B $\frac{12}{15}$

D $\frac{2}{10}$

Skill 11

20. Which tells about how full the glass is?

F $\frac{1}{4}$

H $\frac{3}{4}$

G $\frac{1}{2}$

J $\frac{1}{8}$

Skill 10

