Key Concept and Vocabulary

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

Multiply or divide the numerator and denominator by the same number.

Equivalent fractions

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

Visual Model

$\frac{2}{3}$

equivalent fractions

$\frac{8}{12}$

Skill Examples

1. $\dfrac{1}{2} = \dfrac{1 \times 2}{2 \times 2} = \dfrac{2}{4}$

2. $\dfrac{1}{2} = \dfrac{1 \times 3}{2 \times 3} = \dfrac{3}{6}$

$\dfrac{1}{2}, \dfrac{2}{4},$ and $\dfrac{3}{6}$ are all equivalent.

3. $\dfrac{15}{20} = \dfrac{15 \div 5}{20 \div 5} = \dfrac{3}{4}$

4. $\dfrac{63}{56} = \dfrac{63 \div 7}{56 \div 7} = \dfrac{9}{8}$

Application Example
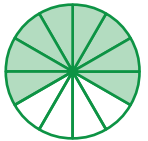
5. A pizza has 12 pieces. Two-thirds of the pizza is left. How many pieces are left?

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

There are 8 pieces left.

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Check your answers at BigIdeasMath.com.

Find the equivalent fraction.

6. $\dfrac{1}{2} = \dfrac{\boxed{4}}{8}$

7. $\dfrac{3}{5} = \dfrac{\boxed{9}}{15}$

8. $\dfrac{4}{3} = \dfrac{\boxed{12}}{9}$

9. $\dfrac{1}{3} = \dfrac{\boxed{9}}{27}$

10. $\dfrac{8}{20} = \dfrac{\boxed{2}}{5}$

11. $\dfrac{56}{64} = \dfrac{\boxed{7}}{8}$

12. $\dfrac{6}{14} = \dfrac{3}{\boxed{7}}$

13. $\dfrac{36}{16} = \dfrac{9}{\boxed{4}}$

14. $\dfrac{1}{5} = \dfrac{10}{\boxed{50}}$

15. $\dfrac{12}{36} = \dfrac{3}{\boxed{9}}$

16. $\dfrac{7}{10} = \dfrac{14}{\boxed{20}}$

17. $\dfrac{9}{24} = \dfrac{3}{\boxed{8}}$

Shade the model so that the fraction is equivalent.

18.

19.

20. **PIZZA** A pizza has 12 pieces. Three-fourths of the pizza is left. How many pieces are left?   9 pieces

21. **SURVEY** A survey asked 240 people if they liked a movie. One-third liked it, one-sixth did not like it, and one-half had not seen it. How many people are in each of the three categories?   liked: 80, did not like: 40, had not seen: 120