

Equivalent Fractions

Name: _____ Date: _____ Score: _____ / 24

Quick Review

Two fractions are **equivalent** when they name the same amount, even though they look different. For example, $\frac{1}{2}$ and $\frac{2}{4}$ cover the same part of a whole. To build an equivalent fraction, **multiply** the top number (numerator) and the bottom number (denominator) by the same number. To make a fraction simpler, **divide** the top and bottom by the same number. The key idea: whatever you do to the top, you must do to the bottom. A fraction is in **simplest form** when the only number that divides both the top and bottom evenly is 1.

◇ **Example:** Fill in the missing number: $\frac{3}{4} = \frac{?}{12}$.

⇒ Look at the denominators. To get from 4 to 12, we multiply by 3, because $4 \times 3 = 12$. To keep the fraction equivalent, we must multiply the top by the same number: $3 \times 3 = 9$. So the missing numerator is 9, which means $\frac{3}{4} = \frac{9}{12}$.

Answer: $\frac{9}{12}$

PRACTICE

Find each equivalent fraction or write the fraction in simplest form.

- | | | | |
|-----------------------------------|-------|---|-------|
| 1. $\frac{1}{2} = \frac{?}{4}$ | _____ | 11. $\frac{3}{10} = \frac{?}{100}$ | _____ |
| 2. $\frac{1}{3} = \frac{?}{6}$ | _____ | 12. $\frac{1}{2} = \frac{?}{6}$ | _____ |
| 3. $\frac{2}{5} = \frac{?}{10}$ | _____ | 13. $\frac{2}{4} = \frac{?}{2}$ | _____ |
| 4. $\frac{3}{4} = \frac{?}{8}$ | _____ | 14. $\frac{4}{6} = \frac{?}{3}$ | _____ |
| 5. $\frac{1}{2} = \frac{?}{8}$ | _____ | 15. $\frac{6}{8} = \frac{?}{4}$ | _____ |
| 6. $\frac{2}{3} = \frac{?}{12}$ | _____ | 16. Write $\frac{2}{8}$ in simplest form | _____ |
| 7. $\frac{1}{4} = \frac{?}{12}$ | _____ | 17. Write $\frac{5}{10}$ in simplest form | _____ |
| 8. $\frac{3}{5} = \frac{?}{10}$ | _____ | 18. Write $\frac{6}{12}$ in simplest form | _____ |
| 9. $\frac{5}{6} = \frac{?}{12}$ | _____ | 19. Write $\frac{8}{12}$ in simplest form | _____ |
| 10. $\frac{1}{5} = \frac{?}{100}$ | _____ | 20. Write $\frac{50}{100}$ in simplest form | _____ |

Word Problems

21. Mia ate $\frac{1}{2}$ of her granola bar. Her brother says he ate $\frac{4}{8}$ of an identical bar. Did they eat the same amount? _____
22. A recipe calls for $\frac{2}{3}$ cup of flour. Jordan only has a measuring cup marked in twelfths. How many twelfths of a cup should Jordan use? _____
23. On a spelling test, Leo got $\frac{15}{20}$ of the words correct. Write his score as a fraction in simplest form. _____
24. A pizza is cut into 6 equal slices and Ava takes 3 of them. Her friend says Ava took $\frac{1}{2}$ of the pizza. Is the friend correct? _____



Answer Keys

1. $\frac{2}{4}$
2. $\frac{2}{6}$
3. $\frac{4}{10}$
4. $\frac{6}{8}$
5. $\frac{4}{8}$
6. $\frac{8}{12}$
7. $\frac{3}{12}$
8. $\frac{6}{10}$
9. $\frac{10}{12}$
10. $\frac{20}{100}$
11. $\frac{30}{100}$
12. $\frac{3}{6}$

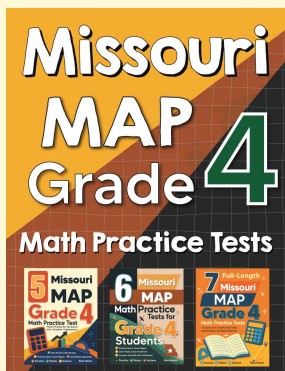
13. $\frac{1}{2}$
14. $\frac{2}{3}$
15. $\frac{3}{4}$
16. $\frac{1}{4}$
17. $\frac{1}{2}$
18. $\frac{1}{2}$
19. $\frac{2}{3}$
20. $\frac{1}{2}$
21. Yes, $\frac{1}{2} = \frac{4}{8}$
22. $\frac{8}{12}$ cup
23. $\frac{3}{4}$
24. Yes, $\frac{3}{6} = \frac{1}{2}$

Step-by-Step Explanations

1. Multiply top and bottom by 2: $1 \times 2 = 2$ and $2 \times 2 = 4$.
2. The bottom doubled, so double the top too: $1 \times 2 = 2$.
3. To go from 5 to 10 you multiply by 2, so $2 \times 2 = 4$ on top.
4. The bottom doubled from 4 to 8, so double the top: $3 \times 2 = 6$.
5. To get 8 you multiply 2 by 4, so the top is $1 \times 4 = 4$.
6. 3 times 4 is 12, so multiply the top by 4: $2 \times 4 = 8$.
7. 4 times 3 is 12, so the top becomes $1 \times 3 = 3$.
8. The bottom doubled, so double the top too: $3 \times 2 = 6$.
9. 6 times 2 is 12, so multiply the top by 2: $5 \times 2 = 10$.
10. 5 times 20 is 100, so the top is $1 \times 20 = 20$.
11. 10 times 10 is 100, so multiply the top by 10: $3 \times 10 = 30$.
12. 2 times 3 is 6, so the top becomes $1 \times 3 = 3$.
13. Divide top and bottom by 2: $2 \div 2 = 1$ and $4 \div 2 = 2$.
14. Divide top and bottom by 2: $4 \div 2 = 2$ and $6 \div 2 = 3$.
15. Divide top and bottom by 2: $6 \div 2 = 3$ and $8 \div 2 = 4$.
16. Both 2 and 8 divide by 2: $2 \div 2 = 1$ and $8 \div 2 = 4$.
17. Both 5 and 10 divide by 5: $5 \div 5 = 1$ and $10 \div 5 = 2$.
18. Both 6 and 12 divide by 6: $6 \div 6 = 1$ and $12 \div 6 = 2$.
19. Both 8 and 12 divide by 4: $8 \div 4 = 2$ and $12 \div 4 = 3$.
20. Both 50 and 100 divide by 50: $50 \div 50 = 1$ and $100 \div 50 = 2$.
21. Multiply the top and bottom of $\frac{1}{2}$ by 4: $\frac{1 \times 4}{2 \times 4} = \frac{4}{8}$. The fractions are equivalent, so they ate the same amount.
22. Since $3 \times 4 = 12$, multiply the top by 4 as well: $2 \times 4 = 8$. So $\frac{2}{3} = \frac{8}{12}$ cup.
23. Both 15 and 20 divide by 5: $15 \div 5 = 3$ and $20 \div 5 = 4$. So $\frac{15}{20} = \frac{3}{4}$.
24. Ava took $\frac{3}{6}$. Divide the top and bottom by 3: $3 \div 3 = 1$ and $6 \div 3 = 2$, giving $\frac{1}{2}$.



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