

# Equivalent Fractions

Name: \_\_\_\_\_

Date: \_\_\_\_\_

Score: \_\_\_\_\_ / 24

## Q 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.  $\frac{3}{6}$

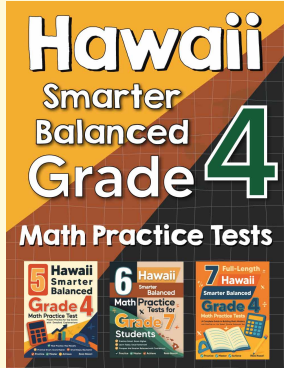
13.  $\frac{1}{2}$
14.  $\frac{2}{3}$
15.  $\frac{3}{4}$
16.  $\frac{1}{4}$
17.  $\frac{1}{2}$
18.  $\frac{1}{2}$
19.  $\frac{2}{3}$
20.  $\frac{1}{2}$
21. Yes,  $\frac{1}{2} = \frac{4}{8}$
22.  $\frac{8}{12}$  cup
23.  $\frac{3}{4}$
24. Yes,  $\frac{3}{6} = \frac{1}{2}$

### 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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