

Raising to Higher Terms

You can make equivalent fractions by raising to **higher terms**. Raise to higher terms by multiplying the numerator and the denominator by the same number.

Raise $\frac{1}{3}$ to higher terms.

Multiply the numerator and denominator by 4.

$\frac{1}{3}$ and $\frac{4}{12}$ are equivalent.

$$\frac{1 \times 4}{3 \times 4} = \frac{4}{12}$$

Raise $\frac{1}{2}$ to higher terms.

Multiply the numerator and denominator by 3.

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

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

Find the missing numerator or denominator for the equivalent fractions.

1. $\frac{1}{2} = \frac{2}{\square}$

2. $\frac{6}{8} = \frac{24}{\square}$

3. $\frac{2}{9} = \frac{\square}{27}$

4. $\frac{10}{30} = \frac{40}{\square}$

5. $\frac{8}{10} = \frac{\square}{50}$

6. $\frac{3}{7} = \frac{\square}{21}$

7. $\frac{1}{8} = \frac{5}{\square}$

8. $\frac{4}{5} = \frac{\square}{20}$

Are the fractions equivalent? Write *yes* or *no*.

9. $\frac{7}{8}$ and $\frac{28}{32}$ _____

10. $\frac{5}{6}$ and $\frac{25}{24}$ _____

11. $\frac{1}{4}$ and $\frac{5}{16}$ _____

12. $\frac{12}{15}$ and $\frac{24}{30}$ _____

13. $\frac{3}{6}$ and $\frac{9}{12}$ _____

14. $\frac{1}{2}$ and $\frac{50}{100}$ _____

Write the next two fractions to continue the pattern.

15. $\frac{1}{2}, \frac{3}{6}, \frac{9}{18},$ _____, _____

16. $\frac{2}{3}, \frac{4}{6}, \frac{8}{12},$ _____, _____

17. $\frac{1}{6}, \frac{2}{12}, \frac{3}{18},$ _____, _____

18. $\frac{1}{4}, \frac{3}{12}, \frac{9}{36},$ _____, _____

19. $\frac{1}{5}, \frac{2}{10}, \frac{4}{20},$ _____, _____

20. $\frac{2}{7}, \frac{4}{14}, \frac{8}{28},$ _____, _____

Directions: Choose the one best answer to each item. Circle the number of the correct answer.

21. Marty raised $\frac{2}{3}$ to higher terms and got $\frac{8}{12}$. What number did he multiply the numerator and denominator by?

(1) 1
(2) 2
(3) 3
(4) 4
(5) 5

22. Leona works at a bakery. A customer wants to buy $\frac{1}{4}$ of a cake. The cake is already cut into eighths. How many eighths would make $\frac{1}{4}$ of the cake?

(1) $\frac{1}{8}$
(2) $\frac{2}{8}$
(3) $\frac{3}{8}$
(4) $\frac{4}{8}$
(5) $\frac{5}{8}$

23. In item 22, what number did Leona multiply the numerator and denominator of $\frac{1}{4}$ by to get the higher fraction?

(1) 2
(2) 3
(3) 4
(4) 5
(5) 6

24. Bryan can easily sprint $\frac{3}{4}$ mile. Tim can sprint the same distance, but he measures it in eighths. How many eighths of a mile can Tim run?

(1) $\frac{1}{8}$
(2) $\frac{2}{8}$
(3) $\frac{3}{8}$
(4) $\frac{5}{8}$
(5) $\frac{6}{8}$

25. Deb is writing a pattern. She starts with $\frac{1}{2}$ and then writes the equivalent fraction $\frac{2}{4}$. She then writes the equivalent fraction $\frac{4}{8}$. If she continues this pattern, what is the next equivalent fraction?

(1) $\frac{6}{12}$
(2) $\frac{8}{4}$
(3) $\frac{2}{3}$
(4) $\frac{8}{16}$
(5) none of the above

26. To run a new lawn mower, you need to mix equal parts of oil and gasoline. You could choose from $\frac{1}{2}$, $\frac{4}{6}$, or $\frac{5}{8}$ quart of oil. You could choose from $\frac{3}{6}$, $\frac{4}{5}$, or $\frac{6}{8}$ quart of gasoline. Which oil and gasoline measurements are equivalent?

(1) $\frac{1}{2}$ qt oil and $\frac{3}{6}$ qt gasoline
(2) $\frac{5}{8}$ qt oil and $\frac{3}{6}$ qt gasoline
(3) $\frac{6}{8}$ qt gasoline and $\frac{4}{6}$ qt oil
(4) $\frac{1}{2}$ qt oil and $\frac{4}{5}$ qt gasoline
(5) $\frac{4}{5}$ qt gasoline and $\frac{5}{8}$ qt oil

27. Three dimes are $\frac{3}{10}$ of a dollar. What equivalent fraction is 30 pennies?

(1) $\frac{3}{100}$
(2) $\frac{1}{3}$
(3) $\frac{30}{100}$
(4) $\frac{10}{3}$
(5) $\frac{1}{2}$

28. Marni measured $\frac{3}{4}$ inch on her blueprint. How many sixteenths does this represent?

(1) $\frac{1}{16}$
(2) $\frac{6}{16}$
(3) $\frac{9}{16}$
(4) $\frac{12}{16}$
(5) $\frac{16}{16}$