

EXERCISE 2.4

A

■ Write each complex fraction as a simple fraction in lowest terms. See Examples 1 and 2.

1.
$$\frac{\frac{2}{9}}{\frac{7}{3}}$$

2.
$$\frac{\frac{5}{2}}{\frac{21}{4}}$$

3.
$$\frac{\frac{2x}{5y}}{\frac{3x}{10y^2}}$$

4.
$$\frac{\frac{3ab}{4}}{\frac{3b}{8a^2}}$$

■ See Example 3.

5.
$$\frac{\frac{3}{4}}{4 - \frac{1}{4}}$$

6.
$$\frac{\frac{1}{3}}{4 + \frac{2}{3}}$$

7.
$$\frac{1 - \frac{2}{3}}{3 + \frac{1}{3}}$$

8.
$$\frac{\frac{1}{2} + \frac{3}{4}}{\frac{1}{2} - \frac{3}{4}}$$

9.
$$\frac{\frac{2}{a} + \frac{3}{2a}}{5 + \frac{1}{a}}$$

10.
$$\frac{\frac{2}{y} + \frac{1}{2y}}{y + \frac{y}{2}}$$

11.
$$\frac{1 + \frac{2}{a}}{1 - \frac{4}{a^2}}$$

12.
$$\frac{4 - \frac{1}{x^2}}{2 - \frac{1}{x}}$$

13.
$$\frac{x + \frac{x}{y}}{1 + \frac{1}{y}}$$

14.
$$\frac{1 + \frac{1}{x}}{1 - \frac{1}{x}}$$

15.
$$\frac{1}{1 - \frac{1}{x}}$$

16.
$$\frac{4}{\frac{2}{x} + 2}$$

17.
$$\frac{\frac{y-2}{y}}{y - \frac{4}{y}}$$

18.
$$\frac{\frac{y+3}{9}}{\frac{y}{y} - y}$$

19.
$$\frac{\frac{x+y}{1}}{\frac{1}{x} + \frac{1}{y}}$$

20.
$$\frac{\frac{x-y}{x}}{\frac{x}{y} - \frac{y}{x}}$$

21.
$$\frac{x - \frac{x}{y}}{y + \frac{y}{x}}$$

22.
$$\frac{y + \frac{x}{y}}{x - \frac{y}{x}}$$

23.
$$\frac{\frac{4}{x^2} - \frac{4}{z^2}}{\frac{2}{z} - \frac{2}{x}}$$

24.
$$\frac{\frac{6}{b} - \frac{6}{a}}{\frac{3}{a^2} - \frac{3}{b^2}}$$

25.
$$\frac{3a - \frac{b^2}{3a}}{1 - \frac{b}{3a}}$$

26.
$$\frac{1 - \frac{2y}{x}}{x - \frac{4y^2}{x}}$$

27.
$$\frac{\frac{3}{x} - \frac{9}{x^2z}}{\frac{6}{xz^2} - \frac{2}{z}}$$

28.
$$\frac{\frac{4}{b^2c} - \frac{5}{bc^2}}{\frac{10}{b} - \frac{8}{c}}$$

29.
$$\frac{8 - \frac{2}{x}}{4 - \frac{13}{x} + \frac{3}{x^2}}$$

30.
$$\frac{6 + \frac{1}{z} - \frac{2}{z^2}}{9 + \frac{6}{z}}$$

31.
$$\frac{1}{\frac{y+1}{1 - \frac{1}{y^2}}}$$

32.
$$\frac{1}{\frac{y-1}{y^2} + 1}$$