

## 8-6

## Practice

Form G

## Solving Rational Equations

Solve each equation. Check each solution.

1.  $\frac{x}{3} + \frac{x}{2} = 10$

2.  $\frac{1}{x} - \frac{x}{9} = 0$

3.  $-\frac{4}{x+1} = \frac{5}{3x+1}$

4.  $\frac{4}{x} = \frac{x}{4}$

5.  $\frac{3x}{4} = \frac{5x+1}{3}$

6.  $\frac{3}{2x-3} = \frac{1}{5-2x}$

7.  $\frac{x-4}{3} = \frac{x-2}{2}$

8.  $\frac{2x-1}{x+3} = \frac{5}{3}$

9.  $\frac{2y}{5} + \frac{2}{6} = \frac{y}{2} - \frac{1}{6}$

10.  $\frac{1}{2x+2} + \frac{5}{x^2-1} = \frac{1}{x-1}$

11.  $\frac{2}{x+3} + \frac{5}{3-x} = \frac{6}{x^2-9}$

12. An airplane flies from its home airport to a city 510 mi away and back. The total flying time for the round-trip flight is 3.9 h. The plane travels the first half of the trip at 255 mi/h with no wind.

- a. How strong is the wind on the return flight? Round your answer to the nearest tenth.  
b. Is the wind on the return flight a headwind or a tailwind?

Use a graphing calculator to solve each equation. Check each solution.

13.  $\frac{x-1}{6} = \frac{x}{4}$

14.  $\frac{x-2}{10} = \frac{x-7}{5}$

15.  $\frac{4}{x+3} = \frac{10}{2x-1}$

16.  $\frac{3}{3-x} = \frac{4}{2-x}$

17.  $\frac{3y}{5} + \frac{1}{2} = \frac{y}{10}$

18.  $5 - \frac{4}{x+1} = 6$

19.  $\frac{2}{3} + \frac{3x-1}{6} = \frac{5}{2}$

20.  $\frac{4}{x-1} = \frac{5}{x-2}$

21.  $\frac{1}{x} - \frac{2}{x+3} = 0$

Solve each equation for the given variable.

22.  $h = \frac{2A}{b}; b$

23.  $\frac{1}{f} = \frac{1}{d_i} + \frac{1}{d_o}; d_o$

24.  $\frac{h}{t} + 16t = v_o; h$

25.  $m = \frac{y_2 - y_1}{x_2 - x_1}; x_1$

26.  $\frac{xy}{z} + 2x = \frac{z}{y}; x$

27.  $\frac{S - 2wh}{2w + 2h} = \ell; S$