Name _____ Date _____

LESSON 8.6

Practice A

For use with pages 589–595

Determine whether the given *x*-value is a solution of the equation.

1. $\frac{4}{2x-3} = \frac{8}{2x}; x = 1$

2. $\frac{x}{x+4} - 2 = \frac{x+8}{-2x}; x = 4$

Solve the equation by cross multiplying. Check for extraneous solutions.

3. $\frac{x}{4} = \frac{x+2}{2}$

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

5. $\frac{x}{4} = \frac{9}{4x}$

6. $\frac{x+2}{x} = \frac{2x+4}{3}$

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

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

9. $\frac{x}{5} = \frac{-4}{x-9}$

10. $\frac{x^2+3}{7x} = \frac{x+1}{6}$

Solve the equation by using the LCD. Check for extraneous solutions.

11. $\frac{4}{x} + 1 = \frac{2x+2}{x}$

12. $\frac{3}{x+4} - 2 = \frac{5}{x+4}$

13. $\frac{9}{x} - 1 = \frac{3}{x} + 2$

14. $\frac{2x}{x+2} - 4 = \frac{6}{x}$

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

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

17. $\frac{2x}{x-2} + \frac{1}{x+2} = \frac{10}{x^2-4}$

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

19. **Population Density** The population density in a large city is related to the distance from the center of the city. This can be modeled by $D = \frac{4500x}{x^2+32}$ where D is the population density (in people per square mile) and x is the distance (in miles) from the center of the city. Find the areas where the population density is 375 people per square mile.