

Name \_\_\_\_\_

Date \_\_\_\_\_



## Practice B

For use with pages 589–595

Odds only to #17

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

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

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

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

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

4.  $\frac{1}{x+5} = \frac{2}{7x}$

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

6.  $\frac{2x+4}{5x} = \frac{2}{x}$

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

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

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

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

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

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

12.  $\frac{-x+1}{x-1} + 2 = \frac{1}{x}$

13.  $1 + \frac{6}{x} = \frac{2x-4}{x} - 3$

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

15.  $\frac{4}{x-3} + \frac{2}{x+3} = \frac{2x+2}{x^2-9}$

16.  $\frac{x^2}{3x-1} + 2 = \frac{2(x-3)}{3x-1}$

17.  $\frac{x}{2x-1} - \frac{2}{2x+1} = \frac{x^2+20}{4x^2-1}$

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

19. **Average Cost** It costs a manufacturing company \$8 to produce one can of paint. If the initial investment in the production line was \$50,000, how many cans of paint must be produced before the average cost per can falls to \$10?

20. **Brakes** The braking distance of a car can be modeled by  $d = s + \frac{s^2}{20}$  where  $d$  is the distance (in feet) that the car travels before coming to a stop, and  $s$  is the speed at which the car is traveling (in miles per hour). Find the speed that results in a braking distance of 240 feet.

In Exercises 21 and 22, use the following information.

**Fuel Efficiency** The cost of fueling your car for one year can be calculated using this equation: Fuel cost for one year =  $\frac{(\text{Miles driven} \times \text{Price per gallon})}{\text{Fuel efficiency rate}}$

21. Last year you drove 22,500 miles, paid \$2.25 per gallon of gasoline, and spent a total of \$2025 on gasoline. What is the fuel efficiency rate of your car?
22. How much would you have saved if your car's fuel efficiency rate were 35 miles per gallon?