PRACTICE

EXAMPLE 1 on p. 598 for Exs. 1–6

Use a table to solve the inequality.

1. $\frac{5}{x-2} < 0$
2. $\frac{x-5}{x+3} > 1$
3. $\frac{x^2-3x+2}{x-3} < x$
4. $\frac{10}{x+2} > 0$
5. $\frac{-2x-3}{x-4} > 0$
6. $\frac{x^2-4x+8}{x-1} < x$

EXAMPLE 2 on p. 598 for Exs. 7–12

Use a graph to solve the inequality.

7. $-\frac{4}{x+5} < 0$
8. $\frac{4}{x-3} < 0$
9. $\frac{8}{x^2+1} \geq 4$
10. $\frac{20}{x^2+1} < 2$
11. $\frac{3x+2}{x-1} < -2$
12. $\frac{3x+2}{x-1} > x$

EXAMPLE 3 on p. 599 for Exs. 13–18

Solve the inequality algebraically.

13. $\frac{3}{x+2} > 0$
14. $-\frac{1}{x+5} \leq -2$
15. $\frac{2}{x+2} > \frac{1}{x+3}$
16. $\frac{5}{x-4} < \frac{1}{x+4}$
17. $\frac{5}{x+3} \geq \frac{4}{x+2}$
18. $\frac{2}{x+6} > \frac{-3}{x-3}$

19. **EGG PRODUCTION** From 1994 to 2002, the total number E (in billions) of eggs produced in the United States can be modeled by

$$E = \frac{-3680}{t-50}, \quad 0 \leq t \leq 8$$

where t is the number of years since 1994. For what years was the number of eggs produced greater than 80 billion?

20. **PHONE COSTS** One phone company advertises a flat rate of \$.07 per minute for long-distance calls. Your long-distance plan charges \$5.00 per month plus a rate of \$.05 per minute. How many minutes do you have to talk each month so that your average cost is less than \$.07 per minute?

21. **SATELLITE TV** You subscribe to a satellite television service. The monthly cost for programming is \$43, and there is a one-time installation fee of \$50. The average monthly cost c of the service is given by $c = \frac{43t+50}{t}$ where t is the time (in months) that you have subscribed to the service. For what subscription times is the average monthly cost at most \$47? Solve the problem using a table and using a graph.

22. **FUNDRAISER** Your school is publishing a wildlife calendar to raise money for a local charity. The total cost of using the photos in the calendar is \$710. In addition to this one-time charge, the unit cost of printing each calendar is \$4.50.
    a. The school wants the average cost per calendar to be below \$10. Write a rational inequality relating the average cost per calendar to the desired cost per calendar.
    b. Solve the inequality from part (a) by graphing. How many calendars need to be printed to bring the average cost per calendar below \$10?
    c. Suppose the school wanted to have the average cost per calendar be below \$6. How many calendars would then need to be printed?