

**Practice B****Solving Rational Equations and Inequalities****Solve each equation.**

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

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2.  $\frac{15}{4} = \frac{6}{x} + 3$

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

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

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**Solve each inequality by using a graphing calculator and a table.**

5.  $\frac{6}{x + 1} < -3$

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6.  $\frac{x}{x - 2} \geq 0$

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7.  $\frac{2x}{x + 5} \leq 0$

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8.  $\frac{-x}{x - 3} \geq 0$

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**Solve each inequality algebraically.**

9.  $\frac{12}{x + 4} \leq 4$

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10.  $\frac{7}{x + 3} < -5$

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11.  $\frac{x}{x - 2} > 9$

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12.  $\frac{2x}{x - 5} \geq 3$

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**Solve.**

13. The time required to deliver and install a computer at a customer's location is  $t = 4 + \frac{d}{r}$ , where  $t$  is time in hours,  $d$  is the distance, in miles, from the warehouse to the customer's location, and  $r$  is the average speed of the delivery truck. If it takes 6.2 hours for the employee to deliver and install a computer for a customer located 100 miles from the warehouse, what is the average speed of the delivery truck?

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**Practice B****Solving Rational Equations and Inequalities**

Solve each equation.

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

$x = -1 \text{ or } x = 6$

2.  $\frac{15}{4} = \frac{6}{x} + 3$

$x = 8$

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

$x = 3 \text{ or } x = -1$

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

no solution.

Solve each inequality by using a graphing calculator and a table.

5.  $\frac{6}{x+1} < -3$

$-3 < x < -1$

6.  $\frac{x}{x-2} \geq 0$

$x \leq 0 \text{ or } x > 2$

7.  $\frac{2x}{x+5} \leq 0$

$-5 < x \leq 0$

8.  $\frac{-x}{x-3} \geq 0$

$0 \leq x < 3$

Solve each inequality algebraically.

9.  $\frac{12}{x+4} \leq 4$

$x < -4 \text{ or } x \geq -1$

10.  $\frac{7}{x+3} < -5$

$-\frac{22}{5} < x < -3$

11.  $\frac{x}{x-2} > 9$

$2 < x < \frac{9}{4}$

12.  $\frac{2x}{x-5} \geq 3$

$5 < x \leq 15$

Solve.

13. The time required to deliver and install a computer at a customer's location is  $t = 4 + \frac{d}{r}$ , where  $t$  is time in hours,  $d$  is the distance, in miles, from the warehouse to the customer's location, and  $r$  is the average speed of the delivery truck. If it takes 6.2 hours for the employee to deliver and install a computer for a customer located 100 miles from the warehouse, what is the average speed of the delivery truck?

**About 45.5 miles per hour**