

Practice 3-3

Solving Inequalities Using Multiplication and Division

Solve each inequality. Graph and check the solution.

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|-------------------------------------|--------------------------|----------------------------------|--------------------------------|
| 1. $\frac{15}{8} \leq \frac{5}{2}s$ | 2. $60 \leq 12b$ | 3. $-\frac{4}{5}r < 8$ | 4. $\frac{5}{2} < \frac{n}{8}$ |
| 5. $-9n \geq -36$ | 6. $\frac{n}{7} \geq -6$ | 7. $-7c < 28$ | 8. $16d > -64$ |
| 9. $-\frac{t}{3} < -5$ | 10. $54 < -6k$ | 11. $\frac{w}{7} > 0$ | 12. $2.6v > 6.5$ |
| 13. $-4 < -\frac{2}{5}m$ | 14. $17 < \frac{p}{2}$ | 15. $0.9 \leq -1.8v$ | 16. $-5 \leq -\frac{x}{9}$ |
| 17. $-1 \geq \frac{d}{7}$ | 18. $-3x \geq 21$ | 19. $\frac{c}{12} < \frac{3}{4}$ | 20. $\frac{a}{4} \leq -1$ |

Write and solve an inequality that models each situation.

- Suppose you and a friend are working for a nursery planting trees. Together you can plant 8 trees per hour. What is the greatest number of hours that you and your friend would need to plant at most 40 trees?
- Suppose the physics club is going on a field trip. Members will be riding in vans that will hold 7 people each including the driver. At least 28 people will be going on the field trip. What is the least number of vans needed to make the trip?
- You need to buy stamps to mail some letters. The stamps cost \$.34 each. What is the maximum number of stamps that you can buy with \$3.84?
- The Garcias are putting a brick border along one edge of their flower garden. The flower garden is no more than 31 ft long. If each brick is 6 in. long, what is the greatest number of bricks needed?
- Janet needs to travel 275 mi for a conference. She needs to be at the conference in no more than 5.5 h. What is the slowest average speed that she can drive and still arrive at the conference on time?

Solve each inequality. Graph and check the solution.

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| 26. $\frac{1}{4}h < 4.9$ | 27. $\frac{7}{3}x < 21$ | 28. $-\frac{1}{9}a > 9$ | 29. $\frac{b}{6} \leq 2.5$ |
| 30. $-\frac{3}{5}q > 15$ | 31. $84 \leq 21b$ | 32. $\frac{c}{12} > -\frac{5}{6}$ | 33. $80.6 \leq -6.5b$ |
| 34. $-\frac{1}{9}p > \frac{1}{3}$ | 35. $-9z > 45$ | 36. $\frac{1}{7}y \leq 6$ | 37. $-\frac{5}{7} > -\frac{k}{14}$ |
| 38. $6.8 > \frac{y}{5}$ | 39. $75 \leq 15b$ | 40. $39 < -13k$ | 41. $2d < 8.8$ |
| 42. $8.5v > 61.2$ | 43. $-11n \geq -55$ | 44. $\frac{1}{4}y < 17$ | 45. $92 < -23k$ |