

Translate the verbal phrase into an inequality. Then graph the inequality.

- All real numbers that are less than 5
- All real numbers that are greater than or equal to -1
- All real numbers that are greater than -2 and less than or equal to 7
- All real numbers that are greater than 8 or less than -4

Solve the inequality, if possible. Graph your solution.

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| 5. $x - 9 \geq -5$ | 6. $-2 > 5 + y$ | 7. $-0.8 \leq z + 7.7$ |
| 8. $5m \geq 35$ | 9. $\frac{n}{6} < -1$ | 10. $\frac{r}{-3} \leq 4$ |
| 11. $-4s < 6s + 1$ | 12. $4t - 7 \leq 13$ | 13. $-8 > 5 - v$ |
| 14. $3(5w + 4) < 12w - 11$ | 15. $4p - 3 > 2(2p + 1)$ | 16. $9q - 12 \geq 3(3q - 4)$ |
| 17. $-2 \leq 4 - 3a \leq 13$ | 18. $-7 < 2c - 1 < 10\frac{1}{2}$ | 19. $-5 \leq 2 - h$ or $6h + 5 \geq 71$ |
| 20. $ 2d + 8 > 3$ | 21. $2 3f - 7 + 5 < 11$ | 22. $ j - 7 - 1 \leq 3\frac{5}{6}$ |

Solve the equation, if possible.

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| 23. $-\frac{3}{4} x - 3 = \frac{1}{4}$ | 24. $ 3y + 1 - 6 = -2$ | 25. $4 2z + 5 + 9 = 5$ |
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Check whether the ordered pair is a solution of the inequality.

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| 26. $2x - y < 4$; (2, -1) | 27. $y + 3x \geq -5$; (-3 , -4) | 28. $y \leq -3$; (4, -7) |
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Graph the inequality.

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| 29. $y < x + 4$ | 30. $y \geq 2x - 5$ | 31. $y \geq -6$ |
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32. **BUSINESS** Your friend is starting a small business baking and decorating cakes and wants to make a profit of at least \$250 for the first month. The expenses for the first month are \$155. What are the possible revenues that your friend can earn in order to meet the profit goal?

33. **BICYCLES** A manufacturer of bicycle parts requires that a bicycle chain have a width of 0.3 inch with an absolute error of at most 0.0003 inch. Find the possible widths of bicycle chains that the manufacturer will accept.

34. **HORSES** You are planning to ride a horse to a campsite. The sum of your weight x (in pounds) and the combined weight y (in pounds) of your camping supplies can be at most 20% of the weight of the horse.

- Suppose that the horse weighs 1000 pounds. Write and graph an inequality that describes the possible combinations of your weight and the combined weight of the camping supplies.
- Identify and interpret one of the solutions of the inequality in part (a).