

Routine Other Solving Practice #1

Solve:

1. $9x - 2 > 8x + 1$

2. $4 - 9x < -10$

3. $11(x + 2) < 6$

4. $3 - x > -8$

5. $-7(10 - x) > 6$

6. $x - 8 < 9x - 9$

7. $8 - 2x > 11$

8. $2(x - 4) > -9$

9. $8 + 5x > -8$

10. $7x + 11 > -3$

11. $(x + 7)(x + 6) = 0$

12. $(x + 8)(x - 6) = 0$

13. $x^2 + 19x + 84 = 0$

14. $x^2 + 12x + 27 = 0$

15. $x^2 - 6x - 72 = 0$

16. $(x - 3)^2 = 0$

17. $x^2 + 8x + 7 = 0$

18. $x^2 + x - 30 = 0$

19. $(x - 4)(x - 12) = 0$

20. $x^2 - 13x + 36 = 0$

Answers: Routine Other Solving Practice #1

Solve:

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|-----|-------------------|-------------------|----------------|--------------------------|
| 1. | $9x - 2 > 8x + 1$ | $9x - 8x - 2 > 1$ | $x > 1 + 2$ | $x > 3$ |
| 2. | $4 - 9x < -10$ | $4 < -10 + 9x$ | $4 + 10 < 9x$ | $x > 1.556$ or $14/9$ |
| 3. | $11(x + 2) < 6$ | $11x + 22 < 6$ | $11x < 6 - 22$ | $x < -1.455$ or $-16/11$ |
| 4. | $3 - x > -8$ | $3 > -8 + x$ | $3 + 8 > x$ | $x < 11$ |
| 5. | $-7(10 - x) > 6$ | $-70 + 7x > 6$ | $7x > 6 + 70$ | $x > 10.857$ or $76/7$ |
| 6. | $x - 8 < 9x - 9$ | $-8 < 9x - x - 9$ | $-8 + 9 < 8x$ | $x > 0.125$ or $1/8$ |
| 7. | $8 - 2x > 11$ | $8 > 11 + 2x$ | $8 - 11 > 2x$ | $x < -1.5$ or $-3/2$ |
| 8. | $2(x - 4) > -9$ | $2x - 8 > -9$ | $2x > -9 + 8$ | $x > -0.5$ or $-1/2$ |
| 9. | $8 + 5x > -8$ | $5x > -8 - 8$ | $5x > -16$ | $x > -3.2$ or $-16/5$ |
| 10. | $7x + 11 > -3$ | $7x > -3 - 11$ | $7x > -14$ | $x > -2$ |

Note that steps are chosen to always avoid negative multipliers of x .

Some intermediate steps have been left out for reasons of room.

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|-----|-----------------------|-----------------------|-----------------------|
| 11. | $(x + 7)(x + 6) = 0$ | | $x = -7$ or $x = -6$ |
| 12. | $(x + 8)(x - 6) = 0$ | | $x = -8$ or $x = 6$ |
| 13. | $x^2 + 19x + 84 = 0$ | $(x + 12)(x + 7) = 0$ | $x = -12$ or $x = -7$ |
| 14. | $x^2 + 12x + 27 = 0$ | $(x + 9)(x + 3) = 0$ | $x = -9$ or $x = -3$ |
| 15. | $x^2 - 6x - 72 = 0$ | $(x - 12)(x + 6) = 0$ | $x = -6$ or $x = 12$ |
| 16. | $(x - 3)^2 = 0$ | | $x = 3$ |
| 17. | $x^2 + 8x + 7 = 0$ | $(x + 1)(x + 7) = 0$ | $x = -7$ or $x = -1$ |
| 18. | $x^2 + x - 30 = 0$ | $(x + 6)(x - 5) = 0$ | $x = 5$ or $x = -6$ |
| 19. | $(x - 4)(x - 12) = 0$ | | $x = 4$ or $x = 12$ |
| 20. | $x^2 - 13x + 36 = 0$ | $(x - 4)(x - 9) = 0$ | $x = 9$ or $x = 4$ |

Quadratic solutions must have **both** answers.