

8-4 Skills Practice**Quadratic Equations: $ax^2 + bx + c = 0$**

Factor each polynomial, if possible. If the polynomial cannot be factored using integers, write *prime*.

1. $2x^2 + 5x + 2$

2. $3n^2 + 5n + 2$

3. $2t^2 + 9t - 5$

4. $3g^2 - 7g + 2$

5. $2t^2 - 11t + 15$

6. $2x^2 + 3x - 6$

7. $2y^2 + y - 1$

8. $4h^2 + 8h - 5$

9. $4x^2 - 3x - 3$

10. $4b^2 + 15b - 4$

11. $9p^2 + 6p - 8$

12. $6q^2 - 13q + 6$

13. $3a^2 + 30a + 63$

14. $10w^2 - 19w - 15$

Solve each equation. Check the solutions.

15. $2x^2 + 7x + 3 = 0$

16. $3w^2 + 14w + 8 = 0$

17. $3n^2 - 7n + 2 = 0$

18. $5d^2 - 22d + 8 = 0$

8.5 Skills Practice**Quadratic Equations: Differences of Squares**

Factor each polynomial, if possible. If the polynomial cannot be factored, write *prime*.

1. $a^2 - 4$

2. $n^2 - 64$

3. $1 - 49d^2$

4. $-16 + p^2$

5. $k^2 + 25$

6. $36 - 100w^2$

7. $t^2 - 81u^2$

8. $4h^2 - 25g^2$

9. $64m^2 - 9y^2$

10. $4c^2 - 5d^2$

11. $-49y^2 + 4z^2$

12. $8x^2 - 72y^2$

13. $20q^2 - 5r^2$

14. $32a^2 - 50b^2$

Solve each equation by factoring. Check the solutions.

15. $16x^2 - 9 = 0$

16. $25p^2 - 16 = 0$

17. $36q^2 - 49 = 0$

18. $81 - 4b^2 = 0$

8.6 Skills Practice**Quadratic Equations: Perfect Squares**

Determine whether each trinomial is a perfect square trinomial. Write *yes* or *no*. If so, factor it.

1. $m^2 - 6m + 9$

2. $r^2 + 4r + 4$

3. $g^2 - 14g + 49$

4. $2w^2 - 4w + 9$

5. $4d^2 - 4d + 1$

6. $9n^2 + 30n + 25$

Factor each polynomial, if possible. If the polynomial cannot be factored, write *prime*.

7. $2x^2 - 7z$

8. $6b^2 + 11b + 3$

9. $36t^2 - 24t + 4$

10. $4h^2 - 56$

11. $17a^2 - 24ab$

12. $q^2 - 14q + 36$

13. $y^2 + 24y + 144$

14. $6z^2 - 96$

Solve each equation. Check the solutions.

15. $x^2 - 18x + 81 = 0$

16. $4p^2 + 4p + 1 = 0$

17. $9g^2 - 12g + 4 = 0$

18. $y^2 - 16y + 64 = 81$