Intermediate Algebra Skill

Multiplying Algebraic Expressions Using Special Products for Binomials

Simplify.

1. $\left[(x+2)+y\right]\left[(x-3)-2y\right]$

2. $\left[(3a-1)+b\right]\left[(a+5)+3b\right]$

3. $\left[1-(p+q)\right]\left[2-(2p+5q)\right]$

4. $\left[4r-(2s+3)\right]\left[5r-(3s-2)\right]$

5. $\left[(x-2)+3y\right]\left[(x-2)-3y\right]$

6. $\left[4b-(a+1)\right]\left[4b+(a+1)\right]$

7. $\left[(2n+y)-4\right]\left[(2n+y)+4\right]$

8. $\left[5+(3b-2w)\right]\left[5-(3b-2w)\right]$

9. $\left[(4h+1)+2k\right]^2$

10. $\left[(5z-3)-w\right]^2$

11. $\left[6+(2b+3c)\right]^2$

12. $\left[3-(2y-5x)\right]^2$

13. $\left[(a+b)+(c+d)\right]\left[(a-b)+(c-d)\right]$

14. $\left[(x+y)+(w+z)\right]\left[(x+y)-(w+z)\right]$

15. $\left[(t+m)+(g+5)\right]^2$

16. $\left[(x-2)-(y-w)\right]^2$

Answers to Multiplying Algebraic Expressions Using Special Products for Binomials

1. $x^2 - 2y^2 - xy - x - 7y - 6$

2. $3a^2 + 14a + 10ab + 2b + 3b^2 - 5$

3. $2 - 4p - 7q + 2p^2 + 7pq + 5q^2$

4. $20r^2 - 22rs - 7r + 6s^2 + 5s - 6$

5. $x^2 - 4x + 4 - 9y^2$

6. $16b^2 - a^2 - 2a - 1$

7. $4n^2 + 4ny + y^2 - 16$

8. $25 - 9b^2 + 12bw - 4w^2$

9. $16h^2 + 8h + 1 + 16kh + 4k + 4k^2$

10. $25z^2 - 30z + 9 - 10wz + 6w + w^2$

11. $36 + 24b + 36c + 4b^2 + 12bc + 9c^2$

12. $9 - 12y + 30x + 4y^2 - 20yx + 25x^2$

13. $a^2 - b^2 + 2ac - 2bd + c^2 - d^2$

14. $x^2 + 2xy + y^2 - w^2 - 2wz - z^2$

15. $t^2 + 2tm + m^2 + 2tg + 10t + 2mg + 10m + g^2 + 10g + 25$

16. $x^2 - 4x + 4 - 2xy + 2xw + 4y - 4w + y^2 - 2yw + w^2$