

Simplify each expression.

1. $4x(x^2 + 9) - 12x + 10$

2. $(-x^3 + x - 6)(8x^4)$

3. $x(3x + 8) - 7x^2(x - 2)$

4. $6(2x^2 - 3x - 1) - 4x(5x + 3)$

5. $(3x + 2)(x - 5)$

6. $(y - 5)^2$

7. $(4x - 2)(x + 6)$

8. $(y + 3)(2y^2 - 3y - 4)$

Use the appropriate method to factor the following polynomials. If prime, state prime (**TWO** are prime #9-20).

9. $n^2 - 25$

10. $x^2 + 6x + 8$

11. $x^2 - 7x + 9$

12. $x^2 - 7x + 12$

13. $4x^2 - 5a - 6$

14. $5x^2 + 19x - 4$

15. $x^2 - 2x - 8$

16. $4x^2 + 49$

17. $20x^2 - 115p - 30$

18. $18x^2 - 72$

19. $10x^2 + 50x + 60$

20. $7x^2 + 27x - 4$