

**Simplify each polynomial.**

1.  $7a^3 + 5b^3 + 5a^3 - 3b^3$

2.  $3a^2 + 2a - 5 - 5a - 12a^2 + 7$

3.  $3h + 5 + 7h + 3$

4.  $7y^2 - 6 + 4y^2 + 5$

5.  $x^4 - 4x^3 + 9 - x^3 + 3$

6.  $-6k^3 + 3k + 5k^3 - 3k^2 - 8k$

**Multiply and simplify each product.**

7.  $3x(-x + 5)$

8.  $2y(4y - 6)$

9.  $(x^3 + 5)3x^3$

10.  $-5x(-3x^5 - 4x^2)$

11.  $(3x^2 + 4x - 3)2x$

12.  $-7k^4(4k - 3k^3 + 2k^4 - k^6)$

13.  $2ab(-5a^8b + a^2 - 12ab)$

14.  $10xy(-y^5 - xy^3 + 12x)$

**Multiply and simplify each product.**

15.  $3y(y + 4) - y(y^2 - 5)$

16.  $(3x + 4)(-2x - 8)$

17.  $(2x^2 - 3)(x + 6)$

18.  $(x - 3)^2$

19.  $(4y + 5)^2$

20.  $(x^3 - 7x^2 + 2)(x - 5)$

21.  $(2x^2 + 4x - 6)(3x - 2)$

22.  $-4y(y^3 + 8) + 4y(y^2 - 1)$

23.  $y(y^4 - 2y^2) + 2y^2(y^2 - 6)$

24.  $(4x - 6)(4x + 6)$