

Factoring and Multiplying Polynomials

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Simplify each sum.

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

Simplify each difference.

2) $(n^2 - 7n - 2n^4) - (3n^4 + 2n - 7n^2)$

Find each product.

3) $7(4n + 5)$

4) $(k - 3)(k - 8)$

5) $(4p + 2)(5p + 7)$

6) $(7x + 6)(7x - 6)$

7) $(3m + 2)^2$

8) $(5n + 4)^2$

Factor the common factor out of each expression.

9) $-12r^3 - 6r^4 + 24r^5$

10) $25x + 25x^2 + 10x^4$

Factor each completely.

11) $a^2 + 9a + 20$

12) $x^2 + 10x + 16$

13) $3n^2 - 18n + 24$

14) $3m^2 + 20m - 100$

15) $7v^2 + 36v - 36$

16) $4x^2 + 9x - 9$

17) $4x^2 + 21x - 18$

18) $x^2 - 4$

19) $16p^2 - 9$

20) $9n^2 + 12n + 4$