

Factoring and Simplifying Algebraic Expressions

Simplify the given equations by factoring.

1 $2x^3 - 6x^2 + 4x$

2 $g^2 + 3gh - 10g^2h$

3 $2w^3 + 24w^2 + 2w - 4$

4 $40b - 80c - 40d$

5 $16p^2 + 6p - 4p^3 + 2$

6 $x^2 - x^3 + 4x + 2x^4$

7 $3x^2 + 6xy + 9xy^2$

8 $2x^2 + 6x^3 + 5x^7 + 15x^8$

9 $ax^2 + bx + cxy + dy$

10 $4x^3 + 16x^2 + 8xy + 16x$

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Answers

1 $2x^3 - 6x^2 + 4x$

$2x(x^2 - 3x + 2)$

2 $g^2 + 3gh - 10g^2h$

$g(g + 3h - 10gh)$

3 $2w^3 + 24w^2 + 2w - 4$

$2(w^3 + 12w^2 + w - 2)$

4 $40b - 80c - 40d$

$40(b - 2c - d)$

5 $16p^2 + 6p - 4p^3 + 2$

$2(-2p^3 + 8p^2 + 3p + 1)$

6 $x^2 - x^3 + 4x + 2x^4$

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

7 $3x^2 + 6xy + 9xy^2$

$3x(x + 2y + 3y^2)$

8 $2x^2 + 6x^3 + 5x^7 + 15x^8$

$x^2(15x^6 + 5x^5 + 6x + 2)$

9 $ax^2 + bx + cxy + dy$

$x(ax + b) + y(cx + d)$

10 $4x^3 + 16x^2 + 8xy + 16x$

$4x(x^2 + 4x + 2y + 4)$
