

Homework - Factoring by grouping

Factor each completely.

1) $2p^3 + 12p^2 - p - 6$

2) $12p^3 + 18p^2 - 42p - 63$

3) $25r^3 - 20r^2 + 5r - 4$

4) $84x^3 + 24x^2 + 70x + 20$

5) $15x^3 + 90x^2 + 5x + 30$

6) $42v^3 - 30v^2 + 70v - 50$

7) $7k^3 + 6k^2 - 49k - 42$

8) $4n^3 - 5n^2 + 32n - 40$

9) $42m^3 - 6m^2 + 105m - 15$

10) $n^3 + 2n^2 + 6n + 12$

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Factor each completely.

1) $2p^3 + 12p^2 - p - 6$

$$(2p^2 - 1)(p + 6)$$

3) $25r^3 - 20r^2 + 5r - 4$

$$(5r^2 + 1)(5r - 4)$$

5) $15x^3 + 90x^2 + 5x + 30$

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

7) $7k^3 + 6k^2 - 49k - 42$

$$(k^2 - 7)(7k + 6)$$

9) $42m^3 - 6m^2 + 105m - 15$

$$3(2m^2 + 5)(7m - 1)$$

2) $12p^3 + 18p^2 - 42p - 63$

$$3(2p^2 - 7)(2p + 3)$$

4) $84x^3 + 24x^2 + 70x + 20$

$$2(6x^2 + 5)(7x + 2)$$

6) $42v^3 - 30v^2 + 70v - 50$

$$2(3v^2 + 5)(7v - 5)$$

8) $4n^3 - 5n^2 + 32n - 40$

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

10) $n^3 + 2n^2 + 6n + 12$

$$(n^2 + 6)(n + 2)$$