

MIXED FACTORIZATION

Factorize the following as fully as possible.

- [LOOK FOR: A) Common factors - eg: $16x^2 - 24xy = 8x(2x - 3y)$
B) Difference of 2 squares - eg: $25x^2 - 36y^2 = (5x + 6y)(5x - 6y)$
C) Quadratic expressions - eg: $x^2 - 8x + 15 = (x - 3)(x - 5)$
D) COMBINATIONS of (A), (B) or (C) - eg: $2x^3 + 6x^2 - 20x = 2x(x^2 + 3x - 10)$
 $= 2x(x + 5)(x - 2)$]

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|--------------------------|-----------------------------|--|--------------------------|
| 1) $x^2 + 7x - 30$ | 2) $8ab - 6ac$ | 3) $25p^2 - 16q^2$ | 4) $x^2 - 13x + 36$ |
| 5) $24p^2 + 18pq - 30pr$ | 6) $9x^2 - 64$ | 7) $p^2 + 9p - 36$ | 8) $y^2 - 13y - 48$ |
| 9) $12xy + 4x$ | 10) $4a^2 - 1$ | 11) $x^2 - 56x + 300$ | 12) $12x^2 - 75y^2$ |
| 13) $x^2 + 10x - 2000$ | 14) $x^2yz + xy^2z + xyz^2$ | 15) $4x^3 + 20x^2 + 24x$ | 16) $18x^3 - 8xy^2$ |
| 17) $3p^2 - 8p + 5$ | 18) $x^2 - 2xy - 15y^2$ | 19) $8x^2y^2z + 12xy^2z^2 - 20x^2yz^2$ | 20) $x^4 - 7x^3 + 10x^2$ |
| 21) $x^2 - 5xy + 6y^2$ | 22) $8x^2 + 18x - 5$ | 23) $3x^3 - 6x^2 - 72x$ | 24) $x^4 - 81$ |
| 25) $p^2 - 50p - 2400$ | 26) $2x^2 + 5xy - 3y^2$ | 27) $6x^3 + 27x^2y - 15xy^2$ | 28) $x^2 + 15x - 1000$ |
| 29) $x^4 - 13x^2 + 36$ | 30) $x^4 - 24x^2 - 25$ | | |

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