

Solutions to Examples

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|----|------------------|---------------|
| 1. | $6xy - 12yz$ | $6y(x - 2z)$ |
| 2. | $5x^2 - 15xy$ | $5x(x - 3y)$ |
| 3. | $3x^2y - 12xy^2$ | $3xy(x - 4y)$ |
| 4. | $9pq + 6p^2q$ | $3pq(3 + 2p)$ |
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| 1. | $(p - 4)(p + 4)$ | $p^2 - 16$ |
| 2. | $(x - y)(x + y)$ | $x^2 - y^2$ |
| 3. | $(a + 3)(a - 3)$ | $a^2 - 9$ |
| 4. | $(2x + 1)(2x - 1)$ | $4x^2 - 1$ |
| 5. | $(3y + 2)(3y - 2)$ | $9y^2 - 4$ |
| 6. | $(4y + 3)(4y - 3)$ | $16y^2 - 9$ |
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| 1. | $a^2 - 4$ | $(a + 2)(a - 2)$ |
| 2. | $x^2 - 64$ | $(x + 8)(x - 8)$ |
| 3. | $p^2 - q^2$ | $(p + q)(p - q)$ |
| 4. | $z^2 - 9$ | $(z + 3)(z - 3)$ |
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|----|-----------------|----------------------|
| 1. | $4p^2 - 25$ | $(2p + 5)(2p - 5)$ |
| 2. | $9x^2 - 4$ | $(3x + 2)(3x - 2)$ |
| 3. | $9p^2 - 25q^2$ | $(3p + 5q)(3p - 5q)$ |
| 4. | $25a^2 - 16b^2$ | $(5a + 4b)(5a - 4b)$ |
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|----|-----------------|--|
| 1. | $8p^2 - 32$ | $8(p^2 - 4) \rightarrow 8(p + 2)(p - 2)$ |
| 2. | $12x^2 - 27$ | $3(4x^2 - 9) \rightarrow 3(2x + 3)(2x - 3)$ |
| 3. | $50p^2 - 32q^2$ | $2(25p^2 - 16q^2) \rightarrow 2(5p + 4q)(5p - 4q)$ |
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All mixed up examples:

Factorise:

1. $30 - 3p^2q$ $3(10 - p^2q)$

2. $6x^2 - 9x$ $3x(2x - 3)$

3. $4a^2 - 9b^2$ $(2a + 3b)(2a - 3b)$

4. $9x^2 - y^2$ $(3x + y)(3x - y)$

5. $a^2 - 9b^2$ $(a + 3b)(a - 3b)$

6. $x^2 - 9$ $(x + 3)(x - 3)$

7. $25x^2 - 9$ $(5x + 3)(5x - 3)$

8. $9x^2 - 16$ $(3x + 4)(3x - 4)$

9. $2x^2 - 6x$ $2x(x - 3)$