

# Factorisation

Factorise the following algebraic expression

Factorisation means taking terms common from the expression, and writing the rect factors inside the brackets.

Worked out examples.

a)  $10x + 15y$

=  $5(2x + 3y)$  (Number 5 common because 10 and 15 are the multiple of 5)

b)  $3p^3 + 6pq$

=  $3p(p^2 + 2q)$  (Number and term common)

Take the smallest power as a common term.

Remember :When you expand the brackets you must get the same answer.

$$3p \times p^2 + 3p \times 2q$$

$$= 3p^3 + 6pq$$

While taking common, try to take number and terms common.

## Exercise

1) Factorise the following expressions

a)  $6m + 12t$

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b)  $9t + 3p$

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c)  $8m + 12k$

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d)  $4r + 8t$

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e)  $mn + 3m$

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f)  $5g^2 + 3g$

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g)  $4w - 6t$

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h)  $8p - 6k$

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i)  $16h - 10k$

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j)  $2mp + 2mk$

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k)  $4bc + 2bk$

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l)  $6ab + 4ac$

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m)  $3y^2 + 2y$

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n)  $4t^2 - 3t$

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o)  $4d^2 - 2d$

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p)  $3m^2 - 3mp$

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q)  $6p^2 + 9pt$

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r)  $8pt + 6mp$

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s)  $5b^2c - 10bc$

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t)  $8abc + 6bed$

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u)  $4a^2 + 6a + 8$

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v)  $6ab + 9bc + 3bd$

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w)  $5t^2 + 4t + at$

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x)  $6mt^2 - 3mt + 9m^2t$

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y)  $8ab^2 + 2ab - 4a^2b$

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z)  $10pt^2 + 15pt + 5p^2t$

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2) Factorise the following expressions where possible. List those that cannot be factorised.

a)  $7m - 6t$

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b)  $5m + 2mp$

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c)  $t^2 - 7t$

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d)  $8pt + 5ab$

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e)  $4m^2 - 6mp$

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f)  $a^2 + b$

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g)  $4a^2 - 5ab$

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h)  $3ab + 4cd$

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i)  $5ab - 3b^2c$

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