

# Questions: Introduction to factorization

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## Summary

A selection of questions for the study guide on introduction to factorization.

*Before attempting these questions, it is highly recommended that you read [Guide: Introduction to factorization](please add link).*

## Q1

Express each of the following expressions in their simplest factorized form.

1.1.  $7x + 35$ .

1.2.  $3x - 51$ .

1.3.  $6m + 3n$ .

1.4.  $5f + 10 + 15k$ .

1.5.  $10x - 2 + 3y^2 + 3y$ .

1.6.  $9xy - 3x$ .

1.7.  $a^2 + ab$ .

1.8.  $4m^2 - 8nm + 12m$ .

1.9.  $12wx^2 + 16wx$ .

1.10.  $a^3b + ab^2 + ab^3$ .

1.11.  $x(x - 6) + 3(6 - x)$ .

1.12.  $3w + 3z + xw + xz$ .

1.13.  $2ab + b^2 - b - 2a$ .

1.14.  $a^2b + 3a^2 + ab + 3a - 2b - 6$ .

## Q2

Express each of the following expressions in their simplest factorized form.

2.1.  $x^2 + 6x + 5$ .

2.2.  $x^2 - 3x - 4$ .

2.3.  $x^2 - 4x + 3$ .

2.4.  $2x^2 - 13x + 21$ .

2.5.  $5x^2 - 10x + 5$ .

2.6.  $x^2 - xy - 6y^2$ .

2.7.  $12x^2y^2 + 8xy^2 - 4y^2$ .

2.8.  $x^2 - 4yx - x + 4y$ .

2.9.  $x^2 + y^2 - 2xy$ .

2.10.  $x^2 - y^2$ .

### Q3

Using your workings from Q1 and Q2 , solve the following expressions for  $x$ .

3.1.  $7x + 35 = 0$ .

3.2.  $x(x - 6) + 3(6 - x) = 0$ .

3.3.  $x^2 - 4x + 3 = 0$ .

3.4.  $12x^2y^2 + 8xy^2 - 4y^2 = 0$ .

3.5.  $x^2 - 4yx - x + 4y = 0$ .

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After attempting the questions above, please click this link to find the answers.

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### Version history and licensing

v1.0: initial version created 04/25 by Millie Pike.

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