Questions: Factorization

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Summary

A selection of questions for the study guide on factorization.

Before attempting these questions, it is highly recommended that you read Guide: Factorization.

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. $x^2 - y^2$

2.11. $9x^2 + 3x - 2$

Q3

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

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

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

Version history and licensing

v1.0: initial version created 04/25 by Millie Pike, as part of a University of St Andrews VIP project.