Answers: Completing the square

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Summary

Answers to questions relating to the guide on completing the square.

*These are the answers to* [*Questions: Completing the square*](../questions/qs-completingthesquare.qmd)*.*

**Please attempt the questions before reading these answers!**

## Q1

1.1. Here, , so in this question and .

1.2. Here, , so in this question and .

1.3. Here, , so in this question and .

1.4. Here, , so in this question and .

1.5. Here, , so in this question and .

1.6. Here, , so in this question and .

1.7. Here, , so in this question and .

1.8. Here, , so in this question and .

1.9. Here, , so in this question and .

1.10. Here, , so in this question and .

1.11. Here, , so in this question and .

1.12. Here, , so in this question and .

## Q2

2.1. Here, , so in this question , and .

2.2. Here, , so in this question , and .

2.3. Here, , so in this question . (Or, if you prefer, .)

2.4. Here, , so in this question , and .

2.5. Here, , so in this question , and .

2.6. Here, , so in this question , and . (Or, if you prefer, .)

2.7. Here, , so in this question , and .

2.8. Here, , so in this question , and .

## Q3

Using your working from Q1 and Q2, solve the following quadratic equations.

3.1. You worked out in 1.2 that . Rearranging for gives , so or .

3.2. You worked out in 1.4 that . Rearranging for gives , so or .

3.3. You worked out in 1.3 that . Using the fact that (see [Guide: Introduction to complex numbers]), rearranging for gives , so or .

3.4. You worked out in 2.6 that . Rearranging for gives (twice, see [Guide: Introduction to quadratic equations](../studyguides/introtoquadratics.qmd)).

3.5. You worked out in 2.3 that . Using the fact that (see [Guide: Introduction to complex numbers]), rearranging for gives , so or .

3.6. You worked out in 2.8 that . Rearranging for gives , so or .

## Version history and licensing

v1.0: initial version created 09/24 by tdhc.

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