

# Questions: Introduction to rearranging equations

Shanelle Advani, Tom Coleman

## Summary

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

*Before attempting these questions, it is highly recommended that you read [Guide: Introduction to rearranging equations](#).*

## Q1

For each of the following equations, rearrange the equation for the variable given.

- 1.1. Rearrange  $x = a + 2b$  for  $a$ .
- 1.2. Rearrange  $x = a + 2b$  for  $b$ .
- 1.3. Rearrange  $x - 2y + 4z = 4$  for  $z$ .
- 1.4. Rearrange  $5x - 3y + 8z = -2$  for  $x$ .
- 1.5. Rearrange  $5x - 3y + 8z = -2$  for  $y$ .
- 1.6. Rearrange  $5x - 3y + 8z = -2$  for  $z$ .
- 1.7. Rearrange  $x^2 + y^2 = 4$  for  $x$ .
- 1.8. Rearrange  $\frac{x^2}{4} + \frac{y^2}{16} = a$  for  $x$ .
- 1.9. Rearrange  $\frac{x^2}{4} + \frac{y^2}{16} = a$  for  $y$ .
- 1.10. Rearrange  $\sqrt{x^2 - a^2} = y + 1$  for  $x$ .
- 1.11. Rearrange  $\sqrt[3]{x^3 - a^3} = y + 1$  for  $a$ .
- 1.12. Rearrange  $\sqrt[3]{x^3 - a^3} = y + 1$  for  $x$ .
- 1.13. Rearrange  $x^4 y^2 = a^3 + 2bcd$  for  $d$ .
- 1.14. Rearrange  $x^4 y^2 = a^3 + 2bcd$  for  $a$ .
- 1.15. Rearrange  $x^4 y^2 = a^3 + 2bcd$  for  $x$ .
- 1.16. Rearrange  $\frac{1}{x} + 45 = ly^2$  for  $x$ .

## Q2

In [Guide: Introduction to rearranging equations](#), you saw the expression

$$5x^3y^3 + \frac{6z}{w^4} = 4abc^2$$

where you rearranged this equation for  $x$ .

Rearrange this expression for every other variable  $a, b, c, y, z, w$ .

---

[After attempting the questions above, please click this link to find the answers.](#)

---

## Version history and licensing

v1.0: initial version created 08/23 by Shanelle Advani and tdhc as part of a University of St Andrews STEP project.

- v1.1: edited 05/24 by tdhc.

[This work is licensed under CC BY-NC-SA 4.0.](#)