

Answers: Introduction to rearranging equations

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Summary

Answers to questions relating to the guide on introduction to rearranging equations.

These are the answers to [Questions: Introduction to rearranging equations](#).

Please attempt the questions before reading these answers!

Q1

$$1.1. \quad a = x - 2b$$

$$1.2. \quad b = \frac{x - a}{2}$$

$$1.3. \quad z = -\frac{x}{4} + \frac{y}{2} + 1$$

$$1.4. \quad x = \frac{3y}{5} - \frac{8z}{5} - \frac{2}{5}$$

$$1.5. \quad y = \frac{5x}{3} + \frac{8z}{3} + \frac{2}{3}$$

$$1.6. \quad z = -\frac{5x}{8} + \frac{3y}{8} - \frac{1}{4}$$

$$1.7. \quad x = \pm\sqrt{4 - y^2}$$

$$1.8. \quad x = \pm\sqrt{4a - \frac{y^2}{4}}$$

$$1.9. \quad y = \pm\sqrt{16a - 4x^2}$$

$$1.10. \quad x = \pm\sqrt{(y + 1)^2 + a^2}$$

$$1.11. \quad a = \sqrt[3]{x^3 - (y + 1)^3}$$

$$1.12. \quad x = \sqrt[3]{(y + 1)^3 - a^3}$$

$$1.13. \quad d = \frac{a^3 - x^4 y^2}{2bc}$$

$$1.14. \quad a = \sqrt[3]{x^4 y^2 - 2bcd}$$

$$1.15. \quad x = \pm\sqrt[4]{\frac{a^3 + 2bcd}{y^2}}$$

$$1.16. \quad x = \frac{1}{ly^2 - 45}$$

Q2

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

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

$$c = \pm \sqrt{\frac{5x^3y^3}{4ab} + \frac{6z}{4abw^4}}$$

$$y = \sqrt[3]{\frac{4abc^2}{5x^3} - \frac{6z}{5w^4x^3}}$$

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

$$w = \sqrt[4]{\frac{6z}{4abc^2 - 5x^3y^3}}$$

Version history and licensing

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

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