Questions: The chain rule

Sara Delgado Garcia

Summary

A selection of questions for the study guide on the chain rule.

Before attempting these questions, it is highly recommended that you read Guide: The chain rule..

Differentiate the following functions using the chain rule.

1.1.
$$\frac{1}{7}\cos(5+4x)$$

1.2.
$$4\cos(x^2)$$

1.3.
$$e^{x^2+5}$$

1.4.
$$2(\sin(2x))^2$$

1.5.
$$e^{\sin(3x)}$$

1.6.
$$\ln(2+4x^{-2})^{-1}$$

1.7.
$$e^{5x^4}$$
 changed

1.8.
$$e^{2x^{-3}}$$
 changed

1.9.
$$-5\sqrt{x-2}$$

1.10.
$$\sqrt{(x+3)^2}$$

1.11.
$$\ln(x^2+1)$$

1.12.
$$\ln(\cos(x))$$
.

1.13.
$$2\cos^2(x)$$
.

1.14.
$$2(x^3 + 5x^2 + 13x - 1)^3$$
.

1.15.
$$\sqrt{\frac{1}{2x}}$$

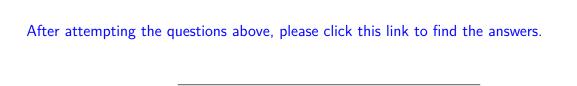
$$1.16. \quad \cos(5x^{-1/2}). \ {\rm changed}$$

1.17.
$$\sin(\sqrt{x^2+1})$$

1.18.
$$\sin(e^x)$$

1.19.
$$\cos(e^{-2x} + 5)$$

1.20.
$$\ln(3x^3 + \sin(x))$$



Version history and licensing

v1.0: initial version created 05/25 by Sara Delgado Garcia as part of a University of St Andrews VIP project.

This work is licensed under CC BY-NC-SA 4.0.