Questions: The chain rule

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

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

1.18. $\sin(e^x)$

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

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

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

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.