

## 3 The chain rule — Part 1 — Answers

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### Answers

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Work through these after you have tried the questions yourself.

**2.1** differentiate the outside function (keeping the inside as it is), then multiply by the derivative of the inside.

**2.2** the inside is  $x^2 + 1$ ; its derivative is  $2x$ .

**2.3** outside  $\rightarrow 3(2x + 5)^2$ ; inside derivative 2; answer  $3(2x + 5)^2 \cdot 2 = 6(2x + 5)^2$ .

**2.4** outside  $\rightarrow 2(x^2 + 4)$ ; inside derivative  $2x$ ; answer  $2(x^2 + 4) \cdot 2x = 4x(x^2 + 4)$ .

**2.5** forgetting to multiply by the derivative of the inside function.