Practice worksheet | Introduction to calculus

Average rates and secant gradients

Name: _____ Date: _____

6 questions | 18 marks

1. Find the average rate of $f(x) = x^2$ from 0 to 4. [3 marks]

2. Find the secant gradient of $g(x) = x^3$ between 1 and 3. [3 marks]

3. A population rises from 320 to 395 over 5 years. Find its average yearly increase. [3 marks]

4. $C(t) = 100 - 4t$. Find its average rate from 2 to 7. [3 marks]

5. A secant passes through $(1, 5)$ and $(4, 17)$. Find its gradient. [3 marks]

6. $h(t) = t^2 - 4t$ on $0 \leq t \leq 4$. Its average rate is 0. Must its instantaneous rate always be 0? Explain. [3 marks]