

MATH 022 Section 006
Spring 2008
QUIZ 3 Mock

1. Find the domain of $g(x) = \sqrt{(3-x)(x-2)}$.

- a) $(-\infty, \infty)$
- b) $(-\infty, 2] \cup [3, \infty)$
- c) $(2, 3)$
- d) $[2, 3]$

2. If $f(x) = x^2 - 3x + 2$, find $\frac{f(a+h) - f(a)}{h}$.

- a) 0
- b) 1
- c) $2a - 3$
- d) $2a + h - 3$

3. Determine the average rate of change of $f(x) = \frac{-1}{x^2}$ between $x = 1$ and $x = 3$.

- a) -1
- b) $\frac{1}{9}$
- c) $\frac{4}{9}$
- d) $-\frac{8}{9}$

4. Determine whether the functions below are odd, even or neither.

$$(i)f(x) = ((x + 3)^2 + 3)^2 \quad (ii)f(x) = (x + 3)^3$$

- a) (i) is even; (ii) is odd
- b) (i) is even; (ii) is neither
- c) (i) is neither; (ii) is odd
- d) (i) is neither; (ii) is neither

5. The function $y = \sqrt{x}$ is shifted 3 units to the left, reflected about the y -axis then shifted up 5. Find the equation for the final transformed graph.

- a) $f(x) = \sqrt[2]{-x + 3} + 5$
- b) $f(x) = -\sqrt[2]{x + 5} + 3$
- c) $f(x) = -\sqrt[2]{x - 5} + 3$
- d) $f(x) = 5 + \sqrt[2]{-x - 3}$