

Quiz 1:

Graph $y = |x| - x$

Quiz 2:

1:

$$\lim_{x \rightarrow -2} f(x) = 1$$

$$\lim_{x \rightarrow -2} g(x) = -1$$

$$\lim_{x \rightarrow -2} [f(x) - g(x)]^2 = ?$$

2:

$$\lim_{x \rightarrow 2} f(x) = -2$$

a) $\lim_{x \rightarrow 2} \sqrt[4]{f(x)^2}$

b) $\lim_{x \rightarrow 2} \sqrt{f(x)}$

3:

$$\lim_{x \rightarrow 0} \frac{x^2 \sin x}{2x^2 + 1}$$

Quiz 3:

a) $f(x) = \begin{cases} x^2 - 2a & \text{if } x \geq 0 \\ ax + 1 & \text{if } x < 0 \end{cases}$

Find a .

b)

$$f(x) = x^3 - 3x^2 + x + 1$$

Prove that $f(x)$ has at least one real root.

Quiz 4:

- 2.6:42 (page 141)
 - 2.7:29 (page 151)
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Quiz 5:

- Prove the difference rule by definition of derivative
 - Prove $\frac{d}{dx} \tan x = \sec^2 x$
 - Prove $\frac{d}{dx} \sin x = \cos x$, accept $\lim_{h \rightarrow 0} \frac{\sin h}{h} = 1$
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Quiz 6:

- 3.5:22 (page 215)
 - 3.6:48 (page 223)
 - 3.6:56 (page 223)
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Quiz 7:

- 4.1:5 (page 280)
 - 4.1:6 (page 280)
 - 4.4:13 (page 307)
 - 4.4:52 (page 308)
 - 4.4:57 (page 308)
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Quiz 8:

- 3.8:5a (page 243)
 - 3.9:3 (page 248)
 - 3.11:15 (page 262)
 - 4.5:62 (page 318)
 - 4.7:14 (page 332)
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Quiz 9:

- 5.2:2 (page 382)
 - 5.2:18 (page 383)
 - 5.2:28 (page 383)
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Quiz 10:

- $g(x) = \int_0^x e^{t^2} dt$. Find $g'(x)$.
 - $h(x) = \int_0^{x^2} e^{t^2} dt$. Find $h'(x)$.
 - 5.4:59 (page 405)
 - 5.5:71 (page 414)
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Quiz 11:

- 6.2:2 (page 438)
 - 6.2:9 (page 438)
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Quiz 12:

- 6.3:5 (page 445)
- 6.3:9 (page 445)
- 6.3:17 (page 445)