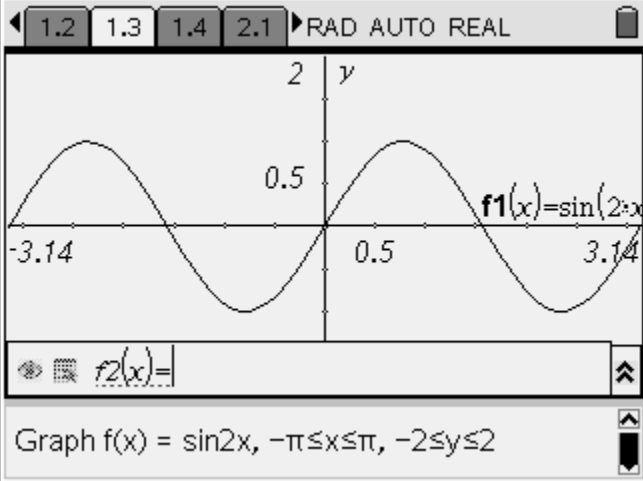
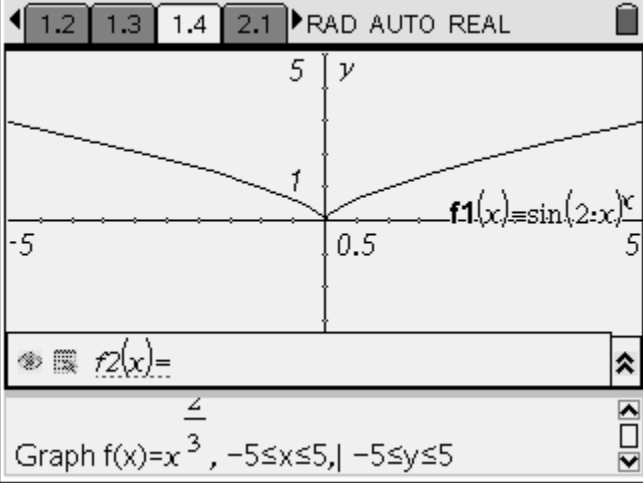
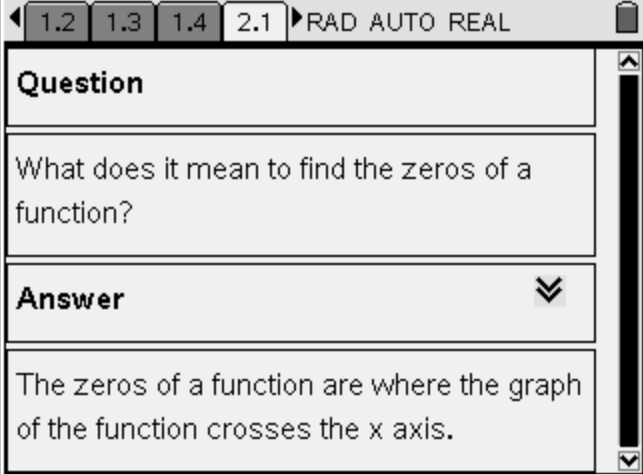
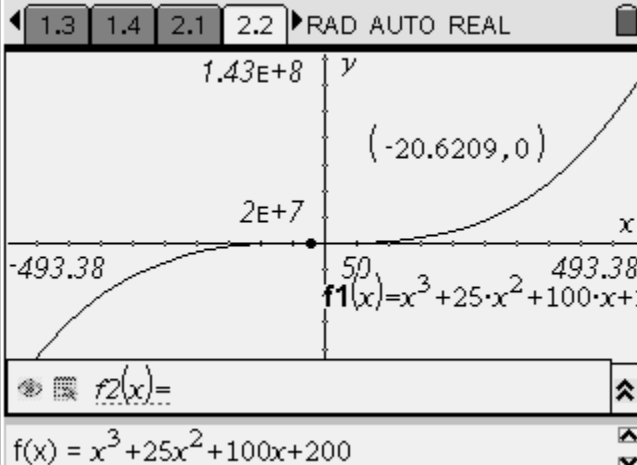
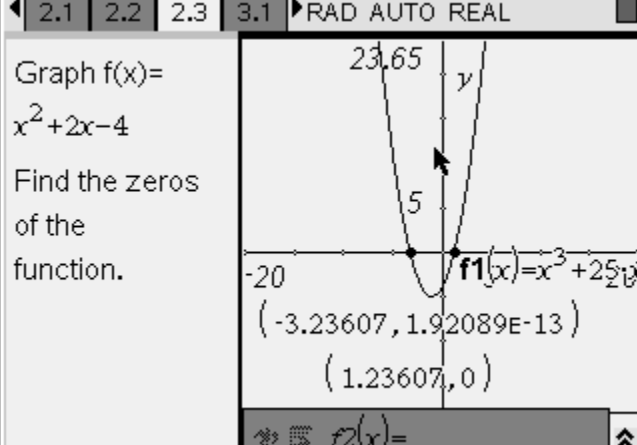
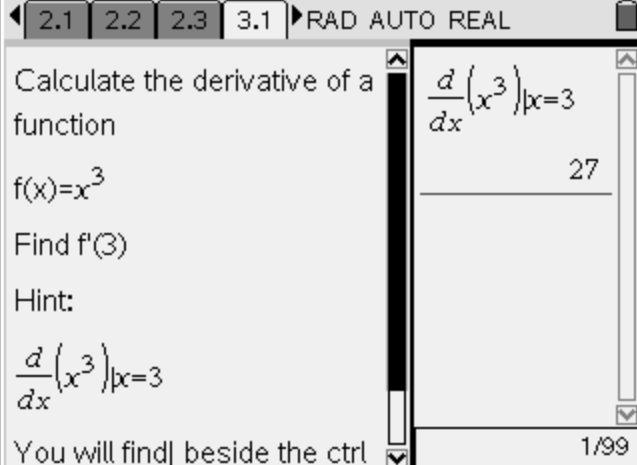


Conquer the Calculus Exam – Answers

Screen 1.3	 <p>1.2 1.3 1.4 2.1 RAD AUTO REAL</p> <p>$f_1(x) = \sin(2 \cdot x)$</p> <p>$f_2(x) =$</p> <p>Graph $f(x) = \sin 2x$, $-\pi \leq x \leq \pi$, $-2 \leq y \leq 2$</p>
Screen 1.4	 <p>1.2 1.3 1.4 2.1 RAD AUTO REAL</p> <p>$f_1(x) = \sin(2 \cdot x)^3$</p> <p>$f_2(x) =$</p> <p>Graph $f(x) = x^3$, $-5 \leq x \leq 5$, $-5 \leq y \leq 5$</p>
Screen 2.1	 <p>1.2 1.3 1.4 2.1 RAD AUTO REAL</p> <p>Question</p> <p>What does it mean to find the zeros of a function?</p> <p>Answer</p> <p>The zeros of a function are where the graph of the function crosses the x axis.</p>

<p>Screen 2.2</p> <p>Zero (-20.6209, 0)</p>	
<p>Screen 2.3</p> <p>Zeros (-3.24, 0) (1.24, 0)</p>	
<p>Screen 3.1</p>	

Screen 3.2

2.2 2.3 3.1 3.2 RAD AUTO REAL

Calculate the derivative of a function
 $f(x) = \sin(2x)$
Find $f'(\frac{\pi}{5})$

$$\frac{d}{dx}(\sin(2x))\Big|_{x=\frac{\pi}{5}} = \frac{\sqrt{5}-1}{2}$$

1/99

Screen 4.1

2.3 3.1 3.2 4.1 RAD AUTO REAL

Numerically calculate the value of a definite integral

$$\int_2^3 x^2 dx$$
$$\frac{19}{3}$$

1/99

Screen 4.2

3.1 3.2 4.1 4.2 RAD AUTO REAL

Numerically calculate the value of a definite integral

$$\int_2^5 \frac{1}{x^2-2} dx$$

Give the approx. value

$$.41762$$

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