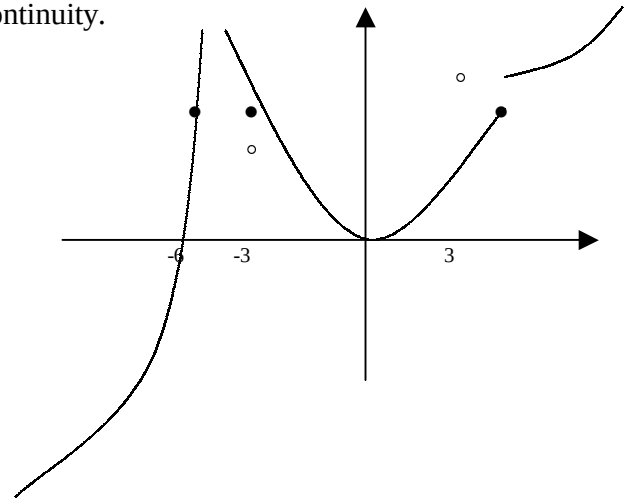
Quiz #1 Math101 013

Name:	I.D.		

14/2.1 Consider the function g graphed in the accompanying figure. For what value of $x_\circ$ does $\lim_{x\to x_\circ} g(x)$ does not exist? Indicate the kind of discontinuity.



20/2.2 Find $\lim_{s\to\infty}\sqrt[3]{\dfrac{3s^7-4s^5}{2s^7+1}}$

Quiz #2 Math101 013

Name:	I.D.		

23b/2.4 Find a value for the constant k that will make the following function continuous

$$f(x)=\begin{cases} kx^2 & x\le 2 \\ 2x+k & x>2 \end{cases}$$

30/2.5 Find $\lim_{h\to 0}\dfrac{h^2}{2-2\cos^2 3h}$

4/3.1 Given a function $s(t)=1/t^2$ and values $t_0=1$ and $t_1=2$

A. Find the average velocity over the interval [1,2]?

B. What is the instantaneous velocity $t_0=1$?

C. What is the instantaneous velocity at a general point t_0 ?

Quiz #3 Math101 013

Name:	I.D.		

38/3.4 Use the definition of derivative to find $f'(x)$ where $f(x)=\cos x$ then use this result to find the derivative of $f(x)=\sec x$

31/3.6 Use local inear approximation to estimate the value $\sqrt{80.1}$

46/3.6 The side of a cube is measured to be 25 cm. With a possible error of ± 1 cm. Estimate the error, relative error and percentage error in the volume.

Quiz #4 101 Math 013

Name:	I.D.		

1. (Q28/4.1)Find the formula for $f(x)^{-1}$ and state the domian of $f(x)^{-1}$ where $f(x)=3x^2+5x-2,\ x\ge 0$.
2. Prove that $y''=\sin y(\cos y+1)^{-3}$ if $y+\sin y=x$

Quiz #4 101 Math 011

Name:	I.D.		

2. (Q46/4.4)Find $f(x)'$ where $f(x)=(x^2+3)^{\ln x}$.

3. (Q22/4.5)Find $f(x)'$ where $f(x)=\cot^{-1}(\sqrt{x})$.

Quiz #6 101 Math 013

Name:	I.D.		

Q27/5.3 Consider the function $f(x)=2x+3x^{\frac{2}{3}}$ Follow the steps to sketch the Graph of the function.

1) Find symmetry if any
2) Find y-int. then x-int. then check if the graph above the x-axis or below.

f _____

Find relative extreme then check if the graph increasing or decreasing

_____

f'

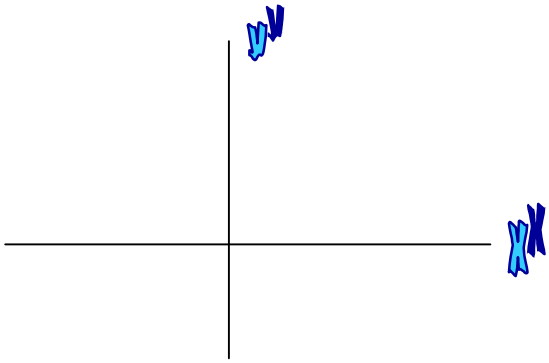
Find asymptotes if any

3) Find inflection points if any then check if the graph concave up or down

_____

f''

4) Check the behavior of the graph as $x\to\infty$ and $x\to-\infty$



Quiz #7 101 Math 013

Name:	I.D.		

1. Find the absolute extrema for the function $f(x)=2x^3-3x^2-12x+1$ in $[-2,3]$

2. Let $f(x)=|2-x|$ show that there is no c such that $\frac{f(3)-f(1)}{3-1}=f'(c)$, explain why this does not contradict the Mean Value Th.

3. A closed rectangular box with a square base is to have a volume 20,000 cm^3. The material for the bottom of the box will cost 8 S. R. per cm^2, and the material for the sides and the top of the box will cost 2 S. R. per cm^2. Find the dimensions that will minimize the cost of the material.

4. A rock thrown downward with an unknown initial velocity from a height of 1000 ft reaches the ground in 4s, find the velocity of the rock when it hits the ground.