Time OK (20-25)
First @ 12 min
Most around 20 min
~~Some~~ A couple took 30+

MATH 131
Quiz I
September 4, 1992

Name Key

1. Find the equation of the straight line which passes through the points (2,-5) and (-2,7).

$m = \frac{7-(-5)}{-2-(2)} = \frac{12}{-4} = -3$

$y+5 = -3(x-2)$

$y+5 = -3x+6$

$\boxed{y = -3x+1}$

all but 4 (all got slope)

2. Find the equation of the straight line which passes through the point (3,-4) and is perpendicular to the line x - 2y = 3.

$-2y = -x+3$

$y = \frac{1}{2}x - \frac{3}{2}$

$\boxed{m = -2}$

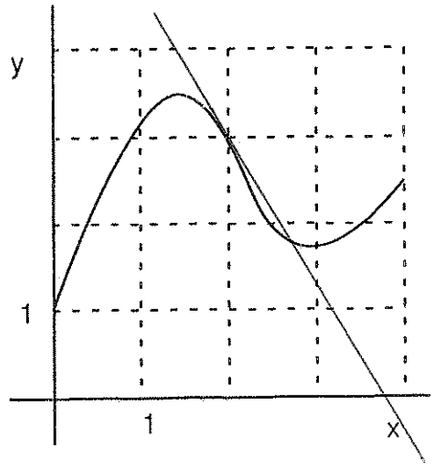
$y-(-4) = -2(x-3)$

$y+4 = -2x+6$

$\boxed{y = -2x+2}$

all but 10 Some only

3. Draw the straight line tangent to the following curve at x = 2. What is the slope of this line?



(2, 3) (3, 1.2)

$\frac{1.2-3}{3-2} = -1.8$

most lines good

or (2, 3) (3, 1.25)

$\frac{3-1.25}{3-3} = \frac{1.75}{-1} = -1.75$

A 4. $f(x) = \begin{cases} x-2, & x < 1 \\ x^2-1, & x \geq 1 \end{cases}$

a. What is f(1)?
b. What is g(f(0)) when $g(x) = x^3$?

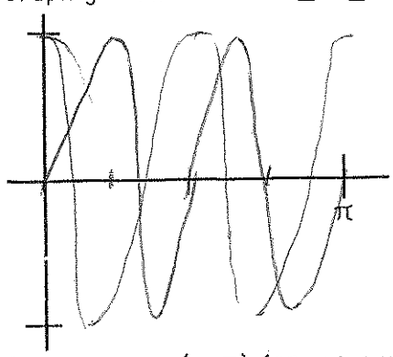
a $f(1) = 1^2-1 = 0$

b $g(f(0)) = f(0) = -2$

$g(f(0)) = (-2)^3 = -8$

most 8/8

6 5. Graph y = sin 4x for $0 \leq x \leq \pi$. What are the intercepts?



$4x = 0$

$4x = 2\pi$

$x = \frac{\pi}{2}$

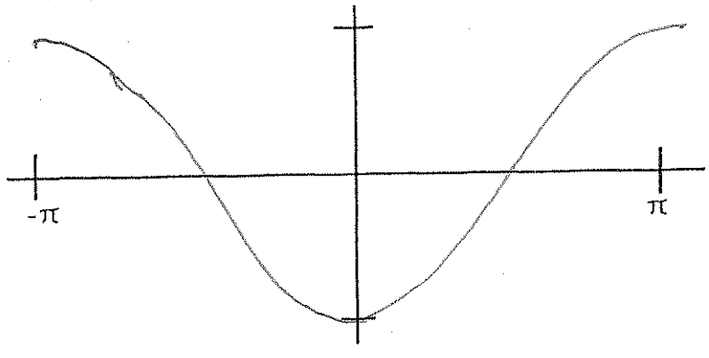
period $[0, \frac{\pi}{2}]$

$y = 1$ $x = \frac{\pi}{8}, \frac{3\pi}{8}, \frac{5\pi}{8}, \frac{7\pi}{8}$

$y = 0$ $x = 0, \frac{\pi}{4}, \frac{\pi}{2}, \frac{3\pi}{4}, \pi$

18/28 got graph

5 6. Graph y = cos(x+π) for $-\pi \leq x \leq \pi$.



$x+\pi = 0$

$x = -\pi$

$-\pi+2\pi = \pi$

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