SPRING 2024

MATH 5A - TEST 2 v1
(2.2-2.6, 2.8,2.9)

100 points **NAME:**_____

DETAILED INSTRUCTIONS ON CANVAS.

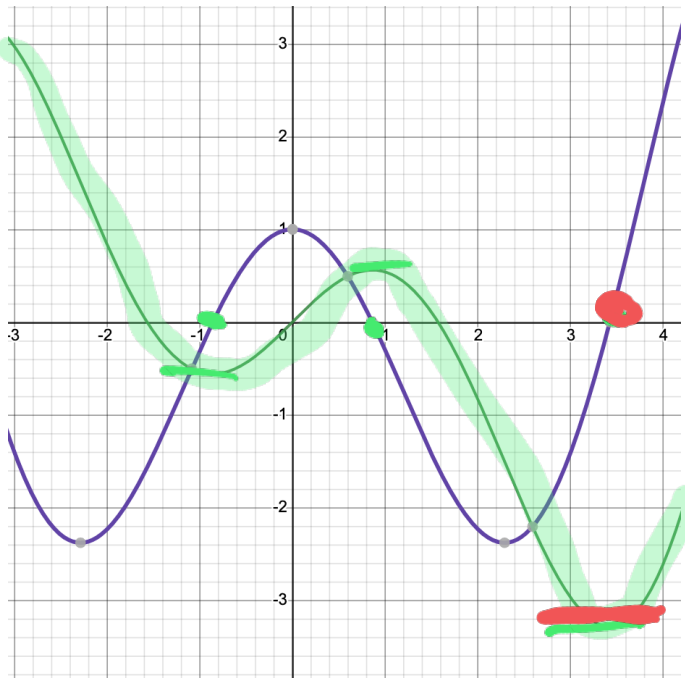
You must show your work with clear presentation and proper notation on this pdf and may only use methods we have learned in this class

When computing derivatives,

- *Use correct notation*
- *Label f, f' clearly*
- *Simplify* $f'(x)$*:*
  - *No complex fractions,*
  - *No negative exponents,*
  - *Combine fractions*
- *Label* $f(x)$, $f'(x)$

---

(1) The graphs below are of a function and its derivative. Clearly label which is $f(x)$ and which is $f'(x)$



(3 points)

f'

f

Horizontal tangents on f correspond to zeros on f'

---

(2) For the function $y = f(x) = x^3$, circle T if the following notation is correct, F if incorrect.

(2 points each)

T F (a) $\frac{dy}{dx}(x^3) = 3x^2$

T F (b) $\frac{d}{dx}(x^3) = 3x^2$.

T F (c) $\frac{d}{dx} = 3x^2$

T F (d) $\frac{dy}{dx} = 3x^2$

good job

(3) Find $f'(x)$. No partial credit (6 points)

a) $f(x) = \sin(4x^2)$

$f'(x) = \cos(4x^2)\frac{d}{dx}(4x^2)$

$f'(x) = 8x\cos(4x^2)$

b) $f(x) = \sqrt{x}\left(x^{3/2} - \frac{3}{\sqrt{x}}\right)$

easier to simplify first

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

$f'(x) = 2x$

---

(4) Find $\frac{dy}{dx}$ No partial credit (6 points)

a) $y = 5x^4 \tan x$

Product

$\frac{dy}{dx} = \frac{d}{dx}(5x^4)\cdot\tan x + 5x^4\frac{d}{dx}(\tan x)$

$\frac{dy}{dx} = 20x^3\tan x + 5x^4\sec^2 x$

b) $y = \frac{x^2+3}{2x+5}$

Quotient

$\frac{dy}{dx} = \frac{(2x+5)\frac{d}{dx}(x^2+3) - (x^2+3)\frac{d}{dx}(2x+5)}{(2x+5)^2}$

$\frac{dy}{dx} = \frac{(2x+5)(2x) - (x^2+3)(2)}{(2x+5)^2}$

$\frac{dy}{dx} = \frac{4x^2+10x-2x^2-6}{(2x+5)^2}$

$\frac{dy}{dx} = \frac{2x^2+10x-6}{(2x+5)^2}$

(5) Use the **definition of derivative** to find the derivative of $f(x)=\sqrt{x}$ (5 points)
(No credit if a different method is used.)

$$f'(x)=\lim_{h\to 0}\frac{f(x+h)-f(x)}{h}$$

$$=\lim_{h\to 0}\frac{\sqrt{x+h}-\sqrt{x}}{h}\cdot\frac{\sqrt{x+h}+\sqrt{x}}{\sqrt{x+h}+\sqrt{x}}$$

$$=\lim_{h\to 0}\frac{x+h-x}{h(\sqrt{x+h}+\sqrt{x})}$$

$$=\lim_{h\to 0}\frac{h}{h(\sqrt{x+h}+\sqrt{x})}$$

$$=\lim_{h\to 0}\frac{1}{\sqrt{x+h}+\sqrt{x}}$$

$$=\frac{1}{\sqrt{x}+\sqrt{x}}$$

$$=\frac{1}{2\sqrt{x}}$$

$$f'(x)=\frac{1}{2\sqrt{x}}$$

In problems 6- 7 find $\frac{dy}{dx}$. Work carefully, very limited partial credit will be given. (8 pts each)

(6) $y = x\sqrt{6-x^2}$ product

$$\frac{dy}{dx} = \frac{d}{dx}(x)\sqrt{6-x^2} + x\frac{d}{dx}\sqrt{6-x^2}$$

$$= \sqrt{6-x^2} + x \cdot \frac{1}{2}(6-x^2)^{-1/2}(-2x)$$

$$= (6-x^2)^{1/2} - x^2(6-x^2)^{-1/2}$$

$$= (6-x^2)^{-1/2}(6-x^2-x^2)$$

$$\frac{dy}{dx} = \frac{6-2x^2}{\sqrt{6-x^2}}$$

---

(7) $y = \sin^3(x^5)$ $= (\sin(x^5))^3$

$$\frac{dy}{dx} = 3(\sin(x^5))^2 \frac{d}{dx}\sin(x^5)$$

$$= 3\sin^2(x^5)\cos(x^5)\frac{d}{dx}(x^5)$$

$$= 3\sin^2(x^5)\cos(x^5)\, 5x^4$$

$$\frac{dy}{dx} = 15x^4\sin^2(x^5)\cos(x^5)$$

In problems 8- 9 find $f'(x)$. Work carefully, very limited partial credit will be given. (8 pts each)

(8) $f(x)=\sec(x)\sin(x^2)$ product

$$f'(x)=\frac{d}{dx}(\sec x)\sin(x^2)+\sec(x)\frac{d}{dx}\sin(x^2)$$

$$=\sec x\tan x\sin(x^2)+\sec x\cos x^2\frac{d}{dx}(x^2)$$

$$=\sec x\tan x\sin(x^2)+\sec x\cos(x^2)2x$$

$$f'(x)=\sec x\tan x\sin(x^2)+2x\sec x\cos(x^2)$$

---

(9) $f(x)=\dfrac{x^4}{\sqrt[3]{6x-3}}=x^4(6x-3)^{-1/3}$ as product. Or use quotient rule

$$f'(x)=\frac{d}{dx}(x^4)(6x-3)^{-1/3}+x^4\frac{d}{dx}\left((6x-3)^{-1/3}\right)$$

$$=4x^3(6x-3)^{-1/3}+x^4\cdot\frac{-1}{3}(6x-3)^{-4/3}\frac{d}{dx}(6x-3)$$

$$=4x^3(6x-3)^{-1/3}-2x^4(6x-3)^{-4/3}$$

$$=(6x-3)^{-4/3}\left(4x^3(6x-3)-2x^4\right)$$

$$=(6x-3)^{-4/3}\left(24x^4-12x^3-2x^4\right)$$

$$f'(x)=\frac{22x^4-12x^3}{(6x-3)^{4/3}}$$

This should be easy enough to compute without a calculator.

$\sqrt{99}$

$f(x)=\sqrt{x}$

$a=100$

$f(100)=10$

$f'(x)=\frac{1}{2\sqrt{x}}$

$f'(100)=\frac{1}{20}$

$L(x)=f(a)+f'(a)(x-a)$

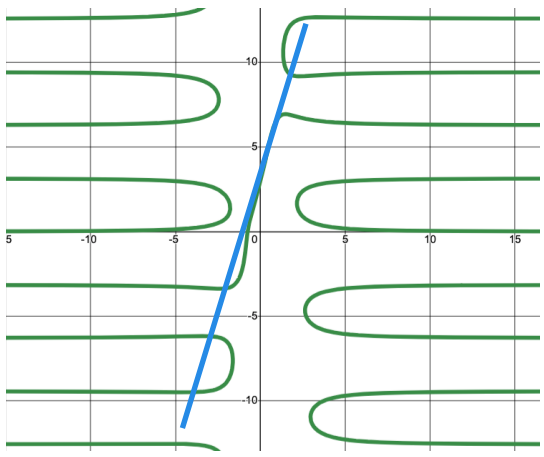
$L(x)=f(100)+f'(100)(x-100)$

$L(x)=10+\frac{1}{20}(x-100)$

$\sqrt{99}\approx L(99)=10+\frac{1}{20}(99-100)$

$=10-\frac{1}{20}=10-.05=9.95$

(11) Find the slope of the tangent line to $x^3\sin y+y-4x=3$ when x=0. The graph of the equation is here so you can check whether your answer is reasonable.



Find $\frac{dy}{dx}$ using implicit diff. (10 pts)

$\frac{d}{dx}\left[x^3\sin y+y-4x\right]=\frac{d}{dx}(3)$

product

$3x^2\sin y+x^3\frac{d}{dx}(\sin y)+\frac{dy}{dx}-4=0$

$3x^2\sin y+x^3\cos y\frac{dy}{dx}+\frac{dy}{dx}-4=0$

$\frac{dy}{dx}(x^3\cos y+1)=4-3x^2\sin y$

$\frac{dy}{dx}=\frac{4-3x^2\sin y}{x^3\cos y+1}$

when x=0

$x^3\sin y+y-4x=3$

$0^3\sin y+y-4(0)=3 \Rightarrow (0,3)$

$y=3$

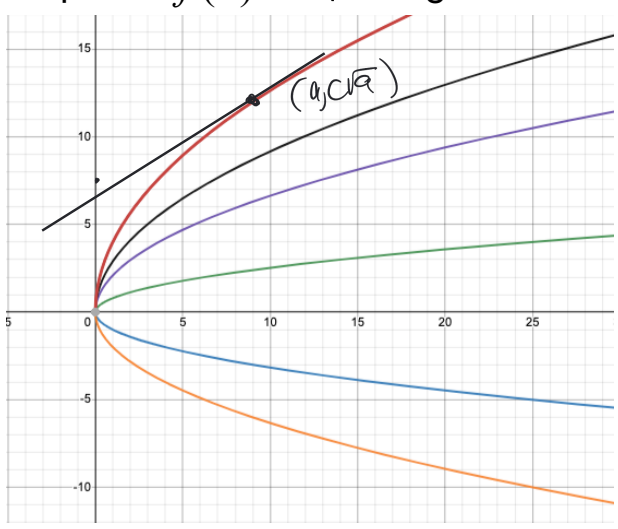
Slope of tangent $\left.\frac{dy}{dx}\right|_{(0,3)}=\frac{4}{1}=4$

Reasonable for tangent line graphed

(12) Find the value of c such that the line $g(x)=\frac{5}{6}x+\frac{15}{2}$ is tangent to the curve $f(x)=c\sqrt{x}$. Explain your steps clearly.

. (10 pts)

Graph of $f(x)=c\sqrt{x}$ is given for various choices of c, for use if helpful



$f'(x)=\frac{c}{2\sqrt{x}}$

Let $(a, c\sqrt{a})$ be the point of tangency. Then the slope of the tangent at that point is $f'(a)=\frac{c}{2\sqrt{a}}$. Since $y=\frac{5}{6}x+\frac{15}{2}$ has slope $\frac{5}{6}$, $f'(a)=\frac{5}{6} \Rightarrow \frac{c}{2\sqrt{a}}=\frac{5}{6}$

Since $(a, c\sqrt{a})$ is on line $y=\frac{5}{6}x+\frac{15}{2}$, we get $c\sqrt{a}=\frac{5}{6}a+\frac{15}{2}$

Solve system

$$\begin{cases} \frac{c}{2\sqrt{a}}=\frac{5}{6} \\ c\sqrt{a}=\frac{5}{6}a+\frac{15}{2} \end{cases} \Rightarrow \begin{cases} c=\frac{5}{3}\sqrt{a} \\ c=\frac{\frac{5}{6}a+\frac{15}{2}}{\sqrt{a}} \end{cases}$$

$\frac{5}{3}\sqrt{a}=\frac{\frac{5}{6}a+\frac{15}{2}}{\sqrt{a}}$

$\frac{5}{3}a=\frac{5}{6}a+\frac{15}{2}$

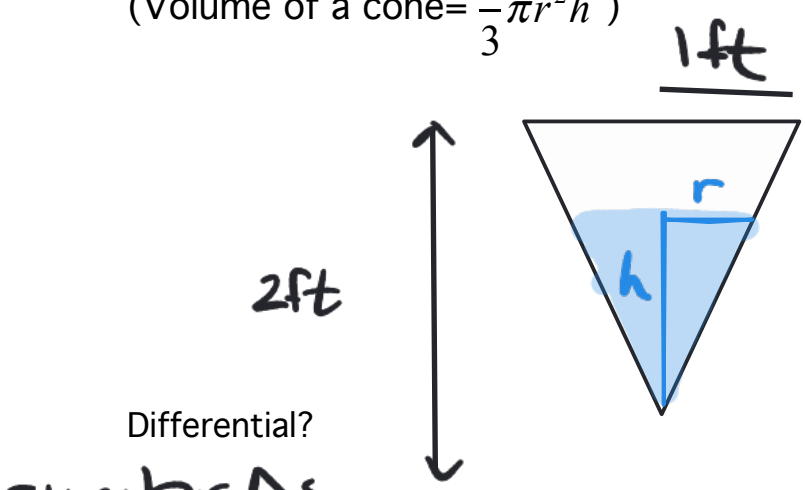
$\frac{5}{6}a=\frac{15}{2}$ $a=9$

$c=5$

(13) Water is draining from the bottom of a cone shaped funnel at the rate of $0.03 ft^3/\sec$. The height of the funnel is 2 ft and the radius at the top of the funnel is 1 ft. At what rate is the height of the water in the funnel changing when the height of the water is 1.2 ft. Is the sign of your answer reasonable? Give correct units in answer.

(10 points)

(Volume of a cone= $\frac{1}{3}\pi r^2 h$)



Know

$\frac{dV}{dt} = -0.03 ft^3/sec$

Want

$\left.\frac{dh}{dt}\right|_{h=1.2}$

Relate V and h

$V = \frac{1}{3}\pi r^2 h$

Differential?

similar Δs

$\frac{r}{1} = \frac{h}{2}$

$r = \frac{1}{2}h$

← Need r in terms of h

$V = \frac{1}{3}\pi\left(\frac{1}{2}h\right)^2 h$

$V = \frac{1}{12}\pi h^3$

Differentiate with respect to t

$\frac{dV}{dt} = \frac{1}{12}\pi 3h^2 \frac{dh}{dt}$

$\frac{dV}{dt} = \frac{\pi h^2}{4}\frac{dh}{dt}$

$\frac{dh}{dt} = \frac{4}{\pi h^2}\frac{dV}{dt}$

makes sense- water is draining so h is decreasing

When $h = 1.2$ $\frac{dh}{dt} = \frac{4}{\pi(1.2)^2}(-0.03) = -.0265$ ft/sec

Spring 24

MATH 5A - TEST 2 v1 2
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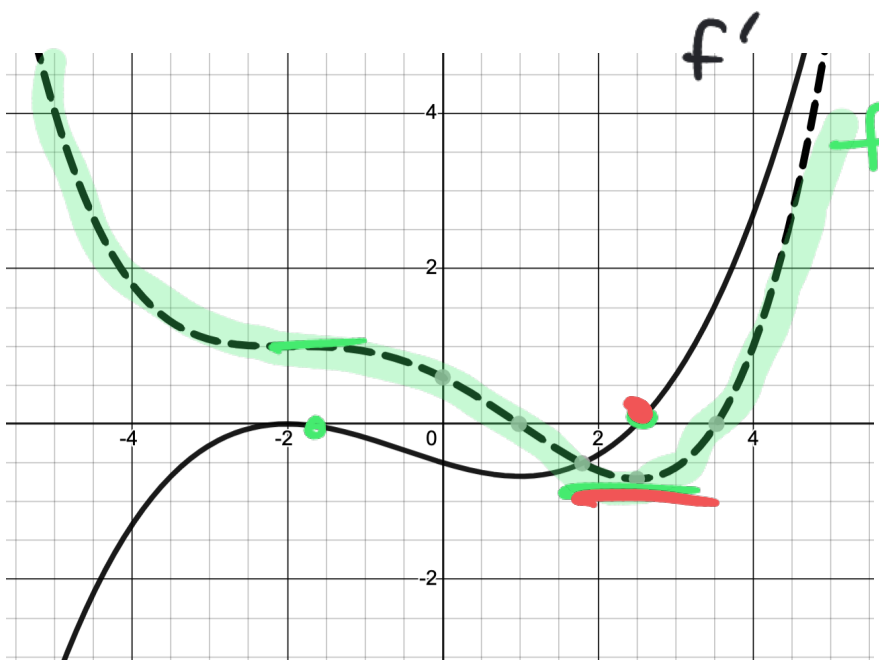
(3 points)



Horizontal tangents on f correspond to zeros on f'

---

(2) For the function $y = f(x) = x^3$, circle T if the following notation is correct, F if incorrect.

(2 points each)

T (F) (1) $\frac{dy}{dx}(x^3) = 3x^2$

T (F) (2) $\frac{d}{dx} = 3x^2.$

(T) F (3) $\frac{dy}{dx} = 3x^2$

(T) F (4) $\frac{d}{dx}(x^3) = 3x^2$

great job

(3) Use the **definition of derivative** to find the derivative of $f(x)=\frac{1}{x^2}$ (5 points)

(No credit if a different method is used.)

$$f'(x)=\lim_{h\to 0}\frac{f(x+h)-f(x)}{h}=\lim_{h\to 0}\frac{\frac{1}{(x+h)^2}-\frac{1}{x^2}}{h}$$

$\frac{x^2(x+h)^2}{x^2(x+h)^2}$

$$=\lim_{h\to 0}\frac{x^2-(x+h)^2}{hx^2(x+h)^2}$$

$$=\lim_{h\to 0}\frac{x^2-(x^2+2xh+h^2)}{hx^2(x+h)^2}$$

$$=\lim_{h\to 0}\frac{-2xh-h^2}{hx^2(x+h)^2}=\lim_{h\to 0}\frac{h(-2x-h)}{hx^2(x+h)^2}$$

$$=\lim_{h\to 0}\frac{-2x-h}{x^2(x+h)^2}=\frac{-2x}{x^4}=\frac{-2}{x^3}\qquad f'(x)=\frac{-2}{x^3}$$

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(4) Find $f'(x)$. No partial credit (6 points)

a) $f(x)=\frac{5}{x}+\frac{2x^2}{5}$

$f(x)=5x^{-1}+\frac{2}{5}x^2$

$f'(x)=-5x^{-2}+\frac{4}{5}x$

$f'(x)=-\frac{5}{x^2}+\frac{4x}{5}$

$=\frac{-25+4x^3}{5x^2}$

b) $f(x)=\cos^2x+\sin^2x$

simplify first

$F(x)=1$

$f'(x)=0$

easier

(5) Find $\frac{dy}{dx}$ No partial credit (6 points)

a). $y = \frac{x^5}{x^2+2}$ quotient

$$\frac{dy}{dx} = \frac{(x^2+2)\frac{d}{dx}(x^5) - x^5\frac{d}{dx}(x^2+2)}{(x^2+2)^2}$$

$$= \frac{(x^2+2)(5x^4) - x^5(2x)}{(x^2+2)^2}$$

$$= \frac{5x^6 + 10x^4 - 2x^6}{(x^2+2)^2}$$

$$= \frac{3x^6+10x^4}{(x^2+2)^2}$$

b) $y = \sec(x^4)$

$$\frac{dy}{dx} = \sec(x^4)\tan(x^4)\frac{d}{dx}(x^4)$$

$$= 4x^3\sec(x^4)\tan(x^4)$$

(6) Use differentials or a linear approximation to estimate $(2.002)^4$

$f(x) = x^4$ $\quad f'(x) = 4x^3$

$a = 2$

$L(x) = f(a) + f'(a)(x-a)$ $\quad f(2) = 16$

$L(x) = f(2) + f'(2)(x-2)$ $\quad f'(2) = 32$

$L(x) = 16 + 32(x-2)$

$(2.002)^4 \approx L(2.002) = 16 + 32(2.002-2)$

$= 16 + 32(.002) = 16.064$

This should be easy to calculate without a calculator.

In problems 7- 8 find $\frac{dy}{dx}$. Work carefully, very limited partial credit will be given. (8 pts each)

(7) $y = \frac{x^2 \sin x}{3x+1}$

$$\frac{dy}{dx} = \frac{(3x+1)\frac{d}{dx}(x^2\sin x) - x^2\sin x \cdot \frac{d}{dx}(3x+1)}{(3x+1)^2}$$

product

$$= \frac{(3x+1)(2x\sin x + x^2\cos x) - x^2\sin x(3)}{(3x+1)^2}$$

$$= \frac{6x^2\sin x + 3x^3\cos x + x^2\cos x + 2x\sin x - 3x^2\sin x}{(3x+1)^2}$$

$$= \frac{3x^2\sin x + 3x^3\cos x + x^2\cos x + 2x\sin x}{(3x+1)^2}$$

---

(8) $y = \cos^3(\sin x) = (\cos(\sin x))^3$

$$\frac{dy}{dx} = 3(\cos(\sin x))^2 \frac{d}{dx}(\cos(\sin x))$$

$$= 3\cos^2(\sin x)(-\sin(\sin x)\frac{d}{dx}\sin x)$$

$$= -3\cos^2(\sin x)\sin(\sin x)\cos x$$

In problems 9- 10 find $f'(x)$. Work carefully, very <u>limited</u> partial credit will be given. (8 pts each)

(9) $f(x)=\dfrac{x^2}{\sqrt{x^2-9}}$ $= x^2(x^2-9)^{-1/2}$ or quotient

$$f'(x) = 2x(x^2-9)^{-1/2} + x^2 \cdot -\frac{1}{2}(x^2-9)^{-3/2}(2x)$$

$$= 2x(x^2-9)^{-1/2} - x^3(x^2-9)^{-3/2}$$

$$= (x^2-9)^{-3/2}\left(2x(x^2-9) - x^3\right)$$

$$= (x^2-9)^{-3/2}\left(x^3 - 18x\right)$$

$$= \frac{x^3-18x}{(x^2-9)^{3/2}}$$

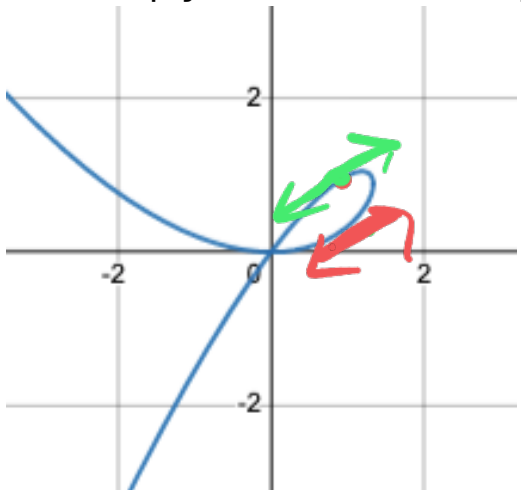
---

(10) $f(x)=x^3\cot(x^4)$

$$f'(x) = 3x^2\cot(x^4) + x^3(-\csc^2(x^4)\,4x^3)$$

$$f'(x) = 3x^2\cot(x^4) - 4x^6\csc^2(x^4)$$

(11) There are two points on the curve $3y^2 + x^3 - 4xy = 0$ corresponding to x=1. Find the slope of the tangent at each of those points. (Graph is provided to help you check whether your answer is reasonable if you want to) (10 points)



when $x=1$

$3y^2 + 1 - 4y = 0$

$3y^2 - 4y + 1 = 0$

$(3y-1)(y-1) = 0$

$y = 1/3 \quad y = 1$

$(1, 1/3) \quad (1,1)$

Find $\frac{dy}{dx}$ using implicit differentiation:

$$\frac{d}{dx}\left(3y^2 + x^3 - 4xy\right) = \frac{d}{dx}(0)$$

product

$$6y\frac{dy}{dx} + 3x^2 - 4x\frac{dy}{dx} - 4y = 0$$

$$6y\frac{dy}{dx} - 4x\frac{dy}{dx} = -3x^2 + 4y$$

$$\frac{dy}{dx}(6y - 4x) = -3x^2 + 4y$$

$$\frac{dy}{dx} = \frac{-3x^2 + 4y}{6y - 4x}$$

At $(1,1)$

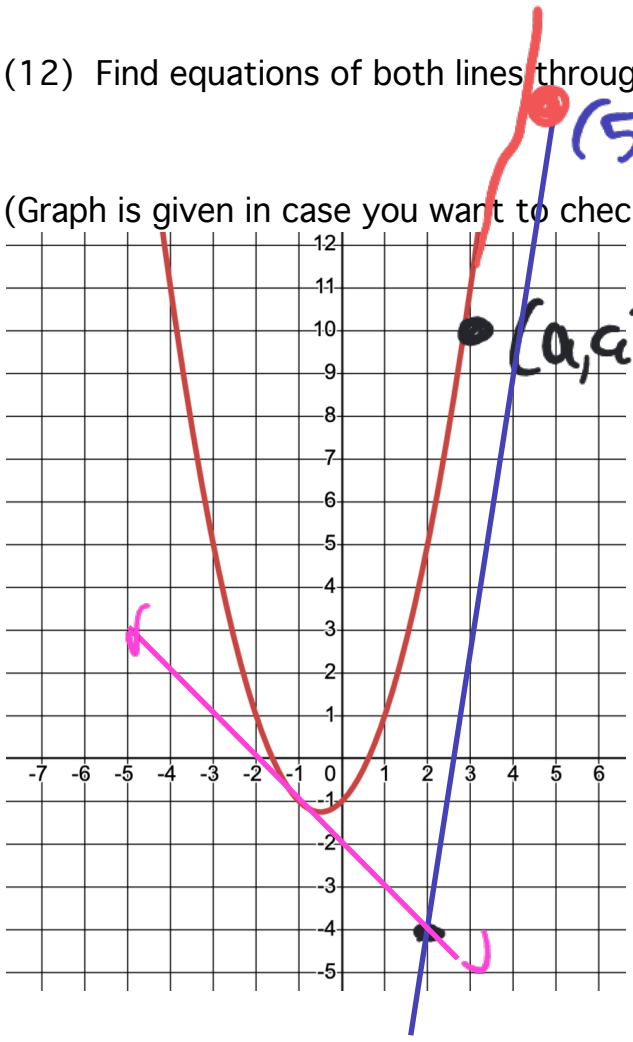
$$\frac{dy}{dx} = \frac{1}{2}$$

At $(1, 1/3)$

$$\frac{dy}{dx} = \frac{-3 + \frac{4}{3}}{2 - 4} = \frac{-5/3}{-2} = \frac{5}{6}$$

(12) Find equations of both lines through the point (2,-4) that are tangent to $f(x) = x^2 + x - 1$. (10 pts)

(Graph is given in case you want to check whether your answer is reasonable.)



$f'(x) = 2x+1$

Let $(a, f(a)) = (a, a^2+a-1)$ be the point of tangency.

Then the equation of the tangent line is

$$y-(a^2+a-1) = f'(a)(x-a)$$

$$y-a^2-a+1 = (2a+1)(x-a)$$

The point $(2,-4)$ is also on this line so substituting into line.

$$-4-a^2-a+1 = (2a+1)(2-a)$$

$$-a^2-a-3 = -2a^2+3a+2$$

$$a^2-4a-5=0$$

$$(a-5)(a+1)=0$$

$$a = 5, -1$$

$a=5$

$(5,29)$

$y-29 = 11(x-5)$

$y = 11x-26$

$a=-1$

$(-1,-1)$

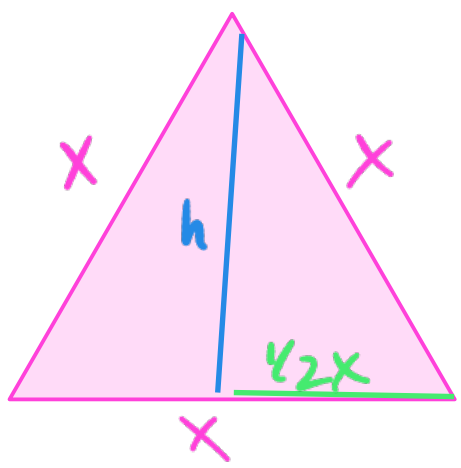
$y+1 = -(x+1)$

$y = -x-2$

(13) The sides of an equilateral triangle are increasing at 3 cm/minute. How fast is the area changing when the sides are 20 cm long.

(10 points)

units



$\frac{dx}{dt} = 3 \text{ cm/min}$ $\left.\frac{dA}{dt}\right|_{x=20}$

Relate A & x

$h^2 + \left(\frac{1}{2}x\right)^2 = x^2$

$h^2 + \frac{1}{4}x^2 = x^2$

$h^2 = \frac{3}{4}x^2$

$h = \frac{\sqrt{3}}{2}x$

$\text{Area} = \frac{1}{2} \cdot b \cdot h$

$= \frac{1}{2} \cdot x \cdot \frac{\sqrt{3}}{2}x$

$A = \frac{\sqrt{3}}{4}x^2$

$\frac{d}{dt}(A) = \frac{d}{dt}\left(\frac{\sqrt{3}}{4}x^2\right)$

$\frac{dA}{dt} = \frac{\sqrt{3}}{2}x\frac{dx}{dt}$

when $x = 20$

$\frac{dA}{dt} = \frac{\sqrt{3}}{2} \cdot 20 \cdot 3$

$= 30\sqrt{3} \text{ cm}^2/\text{min}$

(3) Use the **definition of derivative** to find the derivative of $f(x)=\frac{1}{x^2}$ (5 points)

(No credit if a different method is used.)

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(4) Find $f'(x)$. No partial credit (6 points)

a) $f(x)=\frac{5}{x}+\frac{2x^2}{5}$

b) $f(x)=\cos^2 x+\sin^2 x$

(5) Find $\frac{dy}{dx}$ No partial credit (6 points)

a). $y = \frac{x^5}{x^2 + 2}$

b) $y = \sec(x^4)$

---

(6) Use differentials or linear approximation to approximate $(2.002)^4$

(10 points)

In problems 7- 8 find $\frac{dy}{dx}$. Work carefully, very limited partial credit will be given. (8 pts each)

(7) $y = \dfrac{x^2 \sin x}{3x+1}$

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(9) $f(x)=\dfrac{x^2}{\sqrt{x^2-9}}$

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(10) $f(x)=x^3\cot(x^4)$

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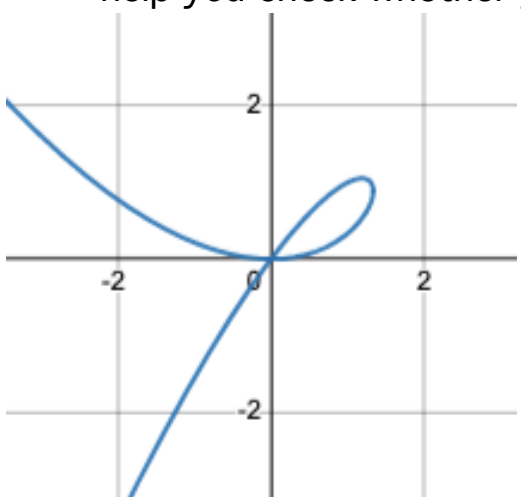

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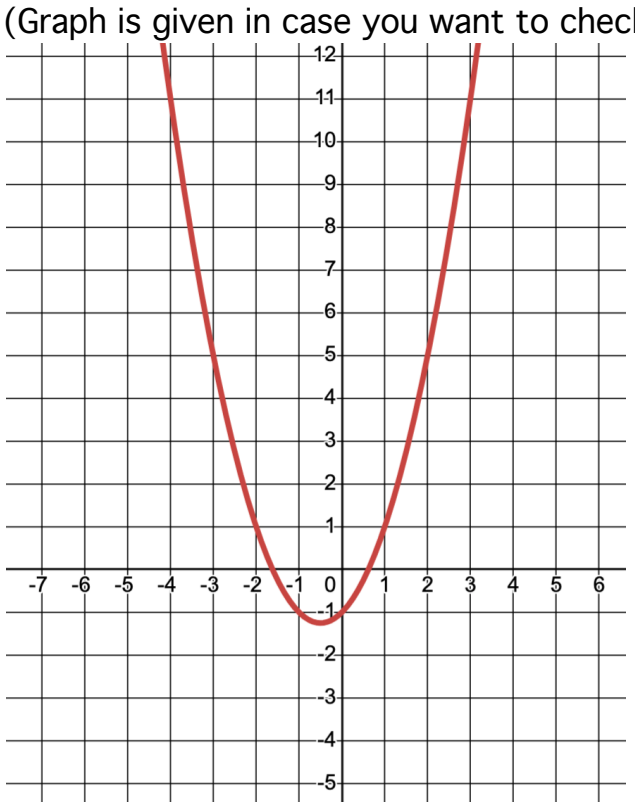

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(10 points)

Schedule | **CRNs Per Round** | Load Totals | Online Totals | PersonSchedule | Room Schedule (All Classes)

MATH 003 - COLLEGE ALGEBRA FOR STEM

CLASS	NOTES	CRN	Meeting Days			Online Hrs/Wk	Location	Start Time	End Time	Instructor	Load	OL Load	CLASS C	WAIT LIST
Math 003	**OPEN**	76142	M	W	-		E 313	7:00:00 AM	9:30:00 AM	#N/A	33.3		35	7
Math 003	**OPEN**	74933	M	W			C 157	9:45:00 AM	12:15:00 PM	Gonzaga Mendez	33.3		35	7
Math 003	**OPEN**	71604	M	W			C 351	9:45:00 AM	12:15:00 PM	#N/A	33.3		35	7
Math 003	**OPEN**	75575	M	W			R 109	13:15:00 PM	15:45:00 PM	#N/A	33.3		35	7
Math 003	**OPEN**	74390	M	W			C 364	13:15:00 PM	15:45:00 PM	#N/A	33.3		35	7
Math 003	**OPEN**	77993	M	W			R 209	13:15:00 PM	15:45:00 PM	#N/A	33.3		35	7
Math 003	**OPEN**	74236	M	W			R 216	16:00:00 PM	18:30:00 PM	#N/A	33.3		35	7
Math 003	**OPEN**	75832	M	W			R 109	19:00:00 PM	21:30:00 PM	#N/A	33.3		35	7
Math 003	**OPEN**	76628	T		R		R 209	7:00:00 AM	9:30:00 AM	#N/A	33.3		35	7
Math 003	**OPEN**	76517	T		R		R 109	9:45:00 AM	12:15:00 PM	#N/A	33.3		35	7
Math 003	**OPEN**	77996	T		R		C 157	9:45:00 AM	12:15:00 PM	#N/A	33.3		35	7
Math 003	**OPEN**	76146	T		R		R 109	13:15:00 PM	15:45:00 PM	#N/A	33.3		35	7
Math 003	**OPEN**	74934	T		R		R 320	13:15:00 PM	15:45:00 PM	#N/A	33.3		35	7
Math 003	**OPEN**	77997	T		R		C 304	16:00:00 PM	18:30:00 PM	#N/A	33.3		35	7
Math 003	**OPEN**	76613	T		R		C 351	19:00:00 PM	21:30:00 PM	#N/A	33.3		35	7
Math 003 + 103	**+Support 76150**	75528	M	W	F		R 117	7:00:00 AM	9:30:00 AM	John Mathewson	45.8		28	0
Math 003 + 103	**+Support 76161**	76145	M	W	F		C 364	9:45:00 AM	12:15:00 PM	Nikolay Yeganov	45.8		28	0
Math 003 + 103	**+Support 76162**	75578	M	W	F		R 321	13:15:00 PM	15:45:00 PM	Nikolay Yeganov	45.8		28	0
Math 003 + 103	**+Support 76159**	75768	M	W	F		C 308	16:00:00 PM	18:30:00 PM	Erlend Weydahl	45.8		28	0
Math 003 + 103	**+Support 76149**	75581	M	W	-		C 304	17:15:00 PM	21:00:00 PM	#N/A	45.8		28	0
Math 003 + 103	**+Support 76157**	72335	T		R	F	R 317	7:00:00 AM	9:30:00 AM	#N/A	45.8		28	0
Math 003 + 103	**+Support 76151**	75577	T		R	F	R 117	9:45:00 AM	12:15:00 PM	Michelle Ingram	45.8		28	0
Math 003 + 103	**+Support 76154**	71792	T		R	F	R 216	9:45:00 AM	12:15:00 PM	#N/A	45.8		28	0
Math 003 + 103	**+Support 76156**	75529	T		R	F	C 364	13:15:00 PM	15:45:00 PM	Jorge Encinas	45.8		28	0
Math 003 + 103	**+Support 76152**	74935	T		R	F	V 202	13:15:00 PM	15:45:00 PM	Michelle Ingram	45.8		28	0
Math 003 + 103	**+Support 76153**	75580	T		R		V 202	17:15:00 PM	21:00:00 PM	#N/A	45.8		28	0
Math 003	**OPEN-HYBRID**	71141	M			2.8	C 304	9:45:00 AM	12:15:00 PM	#N/A	33.3	33.3	35	7
Math 003	**OPEN-HYBRID**	75530	T			2.8	R 117	19:00:00 PM	21:30:00 PM	#N/A	33.3	33.3	35	7
Math 003	**OPEN-HYBRID**	76516	-	W		2.8	R 216	7:00:00 AM	9:30:00 AM	Raelynn Garcia	33.3	33.3	35	7
Math 003	**OPEN-HYBRID**	71247		W		2.8	C 302	16:00:00 PM	18:30:00 PM	#N/A	33.3	33.3	35	7
Math 003	**OPEN-HYBRID**	76141		-	R	2.8	R 319	7:00:00 AM	9:30:00 AM	#N/A	33.3	33.3	35	7
Math 003	**OPEN-HYBRID**	76627			R	2.8	R 318	13:15:00 PM	15:45:00 PM	#N/A	33.3	33.3	35	7
Math 003	**OPEN-ONLINE + F2F Fin**	76147	-	-	-	5.9 + 2	Online Asynch			John Sepikas	33.3	33.3	35	7
Math 003	**OPEN-ONLINE + F2F Fin**	78396	-	-	-	5.9 + 2	Online Asynch			Xiaodan Leng	33.3	33.3	35	7
Math 003	**OPEN-ONLINE + F2F Fin**	78398	-	-	-	5.9 + 2	Online Asynch			Jose Castanon	33.3	33.3	35	7
Math 003	**OPEN-ONLINE + F2F Fin**	78334	-	-	-	5.9 + 2	Online Asynch			Xiaodan Leng	33.3	33.3	35	7
Math 003	**DUAL @ John Muir - HYE**	77167	T		R	2.4	PCC NW D111	14:00:00 PM	15:30:00 PM	#N/A	33.3	33.3	35	7
Math 003	**DUAL @ SMHS - HYBRID**	80010	T		R	2.4	San Marino HS	15:30:00 PM	17:05:00 PM	#N/A	33.3	33.3	35	7

MATH 005A - SINGLE VARIABLE CALCULUS I

CLASS	NOTES	CRN	Meeting Days			Online Hrs/Wk	Location	Start Time	End Time	Instructor	Load	OL Load	CLASS C	WAIT LIST
Math 005A	**OPEN**	71655	M	W			R 321	7:00:00 AM	9:30:00 AM	#N/A	33.3		30	7
Math 005A	**OPEN**	72360	M	W			R 317	9:45:00 AM	12:15:00 PM	Joshua Robles	33.3		30	7
Math 005A	**OPEN**	71660	M	-	W	-	R 319	9:45:00 AM	12:15:00 PM	Israel Castro	33.3		30	7

Schedule | CRNs Per Round | **Load Totals** | Online Totals | PersonSchedule | Room Schedule (All Classes)

MATH 003 - COLLEGE ALGEBRA FOR STEM

CLASS	NOTES	CRN	Meeting Days	Online Hrs/Wk	Location	Start Time	End Time	Instructor	Load	OL Load	CLASS C	WAIT LIST
Math 003	**OPEN**	76142	M W -		E 313	7:00:00 AM	9:30:00 AM	#N/A	33.3		35	7
Math 003	**OPEN**	74933	M W		C 157	9:45:00 AM	12:15:00 PM	Gonzaga Mendez	33.3		35	7
Math 003	**OPEN**	71604	M W		C 351	9:45:00 AM	12:15:00 PM	#N/A	33.3		35	7
Math 003	**OPEN**	75575	M W		R 109	13:15:00 PM	15:45:00 PM	#N/A	33.3		35	7
Math 003	**OPEN**	74390	M W		C 364	13:15:00 PM	15:45:00 PM	#N/A	33.3		35	7
Math 003	**OPEN**	77993	M W		R 209	13:15:00 PM	15:45:00 PM	#N/A	33.3		35	7
Math 003	**OPEN**	74236	M W		R 216	16:00:00 PM	18:30:00 PM	#N/A	33.3		35	7
Math 003	**OPEN**	75832	M W		R 109	19:00:00 PM	21:30:00 PM	#N/A	33.3		35	7
Math 003	**OPEN**	76628	T R		R 209	7:00:00 AM	9:30:00 AM	#N/A	33.3		35	7
Math 003	**OPEN**	76517	T R		R 109	9:45:00 AM	12:15:00 PM	#N/A	33.3		35	7
Math 003	**OPEN**	77996	T R		C 157	9:45:00 AM	12:15:00 PM	#N/A	33.3		35	7
Math 003	**OPEN**	76146	T R		R 109	13:15:00 PM	15:45:00 PM	#N/A	33.3		35	7
Math 003	**OPEN**	74934	T R		R 320	13:15:00 PM	15:45:00 PM	#N/A	33.3		35	7
Math 003	**OPEN**	77997	T R		C 304	16:00:00 PM	18:30:00 PM	#N/A	33.3		35	7
Math 003	**OPEN**	76613	T R		C 351	19:00:00 PM	21:30:00 PM	#N/A	33.3		35	7
Math 003 + 103	**+Support 76150**	75528	M W F		R 117	7:00:00 AM	9:30:00 AM	John Mathewson	45.8		28	0
Math 003 + 103	**+Support 76161**	76145	M W F		C 364	9:45:00 AM	12:15:00 PM	Nikolay Yeganov	45.8		28	0
Math 003 + 103	**+Support 76162**	75578	M W F		R 321	13:15:00 PM	15:45:00 PM	Nikolay Yeganov	45.8		28	0
Math 003 + 103	**+Support 76159**	75768	M W F		C 308	16:00:00 PM	18:30:00 PM	Erlend Weydahl	45.8		28	0
Math 003 + 103	**+Support 76149**	75581	M W -		C 304	17:15:00 PM	21:00:00 PM	#N/A	45.8		28	0
Math 003 + 103	**+Support 76157**	72335	T R F		R 317	7:00:00 AM	9:30:00 AM	#N/A	45.8		28	0
Math 003 + 103	**+Support 76151**	75577	T R F		R 117	9:45:00 AM	12:15:00 PM	Michelle Ingram	45.8		28	0
Math 003 + 103	**+Support 76154**	71792	T R F		R 216	9:45:00 AM	12:15:00 PM	#N/A	45.8		28	0
Math 003 + 103	**+Support 76156**	75529	T R F		C 364	13:15:00 PM	15:45:00 PM	Jorge Encinas	45.8		28	0
Math 003 + 103	**+Support 76152**	74935	T R F		V 202	13:15:00 PM	15:45:00 PM	Michelle Ingram	45.8		28	0
Math 003 + 103	**+Support 76153**	75580	T R		V 202	17:15:00 PM	21:00:00 PM	#N/A	45.8		28	0
Math 003	**OPEN-HYBRID**	71141	M	2.8	C 304	9:45:00 AM	12:15:00 PM	#N/A	33.3	33.3	35	7
Math 003	**OPEN-HYBRID**	75530	T	2.8	R 117	19:00:00 PM	21:30:00 PM	#N/A	33.3	33.3	35	7
Math 003	**OPEN-HYBRID**	76516	- W	2.8	R 216	7:00:00 AM	9:30:00 AM	Raelynn Garcia	33.3	33.3	35	7
Math 003	**OPEN-HYBRID**	71247	W	2.8	C 302	16:00:00 PM	18:30:00 PM	#N/A	33.3	33.3	35	7
Math 003	**OPEN-HYBRID**	76141	- R	2.8	R 319	7:00:00 AM	9:30:00 AM	#N/A	33.3	33.3	35	7
Math 003	**OPEN-HYBRID**	76627	R	2.8	R 318	13:15:00 PM	15:45:00 PM	#N/A	33.3	33.3	35	7
Math 003	**OPEN-ONLINE + F2F Fin**	76147	- - -	5.9 + 2	Online Asynch			John Sepikas	33.3	33.3	35	7
Math 003	**OPEN-ONLINE + F2F Fin**	78396	- - -	5.9 + 2	Online Asynch			Xiaodan Leng	33.3	33.3	35	7
Math 003	**OPEN-ONLINE + F2F Fin**	78398	- - -	5.9 + 2	Online Asynch			Jose Castanon	33.3	33.3	35	7
Math 003	**OPEN-ONLINE + F2F Fin**	78334	- - -	5.9 + 2	Online Asynch			Xiaodan Leng	33.3	33.3	35	7
Math 003	**DUAL @ John Muir - HYE**	77167	T R	2.4	PCC NW D111	14:00:00 PM	15:30:00 PM	#N/A	33.3	33.3	35	7
Math 003	**DUAL @ SMHS - HYBRID**	80010	T R	2.4	San Marino HS	15:30:00 PM	17:05:00 PM	#N/A	33.3	33.3	35	7

MATH 005A - SINGLE VARIABLE CALCULUS I

CLASS	NOTES	CRN	Meeting Days	Online Hrs/Wk	Location	Start Time	End Time	Instructor	Load	OL Load	CLASS C	WAIT LIST
Math 005A	**OPEN**	71655	M W		R 321	7:00:00 AM	9:30:00 AM	#N/A	33.3		30	7
Math 005A	**OPEN**	72360	M W		R 317	9:45:00 AM	12:15:00 PM	Joshua Robles	33.3		30	7
Math 005A	**OPEN**	71660	M - W -		R 319	9:45:00 AM	12:15:00 PM	Israel Castro	33.3		30	7

Schedule | CRNs Per Round | Load Totals | **Online Totals** | PersonSchedule | Room Schedule (All Classes)

MATH 003 - COLLEGE ALGEBRA FOR STEM

CLASS	NOTES	CRN	Meeting Days	Online Hrs/Wk	Location	Start Time	End Time	Instructor	Load	OL Load	CLASS C	WAIT LIST
Math 003	**OPEN**	76142	M W -		E 313	7:00:00 AM	9:30:00 AM	#N/A	33.3		35	7
Math 003	**OPEN**	74933	M W		C 157	9:45:00 AM	12:15:00 PM	Gonzaga Mendez	33.3		35	7
Math 003	**OPEN**	71604	M W		C 351	9:45:00 AM	12:15:00 PM	#N/A	33.3		35	7
Math 003	**OPEN**	75575	M W		R 109	13:15:00 PM	15:45:00 PM	#N/A	33.3		35	7
Math 003	**OPEN**	74390	M W		C 364	13:15:00 PM	15:45:00 PM	#N/A	33.3		35	7
Math 003	**OPEN**	77993	M W		R 209	13:15:00 PM	15:45:00 PM	#N/A	33.3		35	7
Math 003	**OPEN**	74236	M W		R 216	16:00:00 PM	18:30:00 PM	#N/A	33.3		35	7
Math 003	**OPEN**	75832	M W		R 109	19:00:00 PM	21:30:00 PM	#N/A	33.3		35	7
Math 003	**OPEN**	76628	T R		R 209	7:00:00 AM	9:30:00 AM	#N/A	33.3		35	7
Math 003	**OPEN**	76517	T R		R 109	9:45:00 AM	12:15:00 PM	#N/A	33.3		35	7
Math 003	**OPEN**	77996	T R		C 157	9:45:00 AM	12:15:00 PM	#N/A	33.3		35	7
Math 003	**OPEN**	76146	T R		R 109	13:15:00 PM	15:45:00 PM	#N/A	33.3		35	7
Math 003	**OPEN**	74934	T R		R 320	13:15:00 PM	15:45:00 PM	#N/A	33.3		35	7
Math 003	**OPEN**	77997	T R		C 304	16:00:00 PM	18:30:00 PM	#N/A	33.3		35	7
Math 003	**OPEN**	76613	T R		C 351	19:00:00 PM	21:30:00 PM	#N/A	33.3		35	7
Math 003 + 103	**+Support 76150**	75528	M W F		R 117	7:00:00 AM	9:30:00 AM	John Mathewson	45.8		28	0
Math 003 + 103	**+Support 76161**	76145	M W F		C 364	9:45:00 AM	12:15:00 PM	Nikolay Yeganov	45.8		28	0
Math 003 + 103	**+Support 76162**	75578	M W F		R 321	13:15:00 PM	15:45:00 PM	Nikolay Yeganov	45.8		28	0
Math 003 + 103	**+Support 76159**	75768	M W F		C 308	16:00:00 PM	18:30:00 PM	Erlend Weydahl	45.8		28	0
Math 003 + 103	**+Support 76149**	75581	M W -		C 304	17:15:00 PM	21:00:00 PM	#N/A	45.8		28	0
Math 003 + 103	**+Support 76157**	72335	T R F		R 317	7:00:00 AM	9:30:00 AM	#N/A	45.8		28	0
Math 003 + 103	**+Support 76151**	75577	T R F		R 117	9:45:00 AM	12:15:00 PM	Michelle Ingram	45.8		28	0
Math 003 + 103	**+Support 76154**	71792	T R F		R 216	9:45:00 AM	12:15:00 PM	#N/A	45.8		28	0
Math 003 + 103	**+Support 76156**	75529	T R F		C 364	13:15:00 PM	15:45:00 PM	Jorge Encinas	45.8		28	0
Math 003 + 103	**+Support 76152**	74935	T R F		V 202	13:15:00 PM	15:45:00 PM	Michelle Ingram	45.8		28	0
Math 003 + 103	**+Support 76153**	75580	T R		V 202	17:15:00 PM	21:00:00 PM	#N/A	45.8		28	0
Math 003	**OPEN-HYBRID**	71141	M	2.8	C 304	9:45:00 AM	12:15:00 PM	#N/A	33.3	33.3	35	7
Math 003	**OPEN-HYBRID**	75530	T	2.8	R 117	19:00:00 PM	21:30:00 PM	#N/A	33.3	33.3	35	7
Math 003	**OPEN-HYBRID**	76516	- W	2.8	R 216	7:00:00 AM	9:30:00 AM	Raelynn Garcia	33.3	33.3	35	7
Math 003	**OPEN-HYBRID**	71247	W	2.8	C 302	16:00:00 PM	18:30:00 PM	#N/A	33.3	33.3	35	7
Math 003	**OPEN-HYBRID**	76141	- R	2.8	R 319	7:00:00 AM	9:30:00 AM	#N/A	33.3	33.3	35	7
Math 003	**OPEN-HYBRID**	76627	R	2.8	R 318	13:15:00 PM	15:45:00 PM	#N/A	33.3	33.3	35	7
Math 003	**OPEN-ONLINE + F2F Fin**	76147	- - -	5.9 + 2	Online Asynch			John Sepikas	33.3	33.3	35	7
Math 003	**OPEN-ONLINE + F2F Fin**	78396	- - -	5.9 + 2	Online Asynch			Xiaodan Leng	33.3	33.3	35	7
Math 003	**OPEN-ONLINE + F2F Fin**	78398	- - -	5.9 + 2	Online Asynch			Jose Castanon	33.3	33.3	35	7
Math 003	**OPEN-ONLINE + F2F Fin**	78334	- - -	5.9 + 2	Online Asynch			Xiaodan Leng	33.3	33.3	35	7
Math 003	**DUAL @ John Muir - HYE**	77167	T R	2.4	PCC NW D111	14:00:00 PM	15:30:00 PM	#N/A	33.3	33.3	35	7
Math 003	**DUAL @ SMHS - HYBRID**	80010	T R	2.4	San Marino HS	15:30:00 PM	17:05:00 PM	#N/A	33.3	33.3	35	7

MATH 005A - SINGLE VARIABLE CALCULUS I

CLASS	NOTES	CRN	Meeting Days	Online Hrs/Wk	Location	Start Time	End Time	Instructor	Load	OL Load	CLASS C	WAIT LIST
Math 005A	**OPEN**	71655	M W		R 321	7:00:00 AM	9:30:00 AM	#N/A	33.3		30	7
Math 005A	**OPEN**	72360	M W		R 317	9:45:00 AM	12:15:00 PM	Joshua Robles	33.3		30	7
Math 005A	**OPEN**	71660	M - W -		R 319	9:45:00 AM	12:15:00 PM	Israel Castro	33.3		30	7

Schedule | CRNs Per Round | Load Totals | Online Totals | **PersonSchedule** | Room Schedule (All Classes)

MATH 003 - COLLEGE ALGEBRA FOR STEM

CLASS	NOTES	CRN	Meeting Days	Online Hrs/Wk	Location	Start Time	End Time	Instructor	Load	OL Load	CLASS C	WAIT LIST
Math 003	**OPEN**	76142	M W -		E 313	7:00:00 AM	9:30:00 AM	#N/A	33.3		35	7
Math 003	**OPEN**	74933	M W		C 157	9:45:00 AM	12:15:00 PM	Gonzaga Mendez	33.3		35	7
Math 003	**OPEN**	71604	M W		C 351	9:45:00 AM	12:15:00 PM	#N/A	33.3		35	7
Math 003	**OPEN**	75575	M W		R 109	13:15:00 PM	15:45:00 PM	#N/A	33.3		35	7
Math 003	**OPEN**	74390	M W		C 364	13:15:00 PM	15:45:00 PM	#N/A	33.3		35	7
Math 003	**OPEN**	77993	M W		R 209	13:15:00 PM	15:45:00 PM	#N/A	33.3		35	7
Math 003	**OPEN**	74236	M W		R 216	16:00:00 PM	18:30:00 PM	#N/A	33.3		35	7
Math 003	**OPEN**	75832	M W		R 109	19:00:00 PM	21:30:00 PM	#N/A	33.3		35	7
Math 003	**OPEN**	76628	T R		R 209	7:00:00 AM	9:30:00 AM	#N/A	33.3		35	7
Math 003	**OPEN**	76517	T R		R 109	9:45:00 AM	12:15:00 PM	#N/A	33.3		35	7
Math 003	**OPEN**	77996	T R		C 157	9:45:00 AM	12:15:00 PM	#N/A	33.3		35	7
Math 003	**OPEN**	76146	T R		R 109	13:15:00 PM	15:45:00 PM	#N/A	33.3		35	7
Math 003	**OPEN**	74934	T R		R 320	13:15:00 PM	15:45:00 PM	#N/A	33.3		35	7
Math 003	**OPEN**	77997	T R		C 304	16:00:00 PM	18:30:00 PM	#N/A	33.3		35	7
Math 003	**OPEN**	76613	T R		C 351	19:00:00 PM	21:30:00 PM	#N/A	33.3		35	7
Math 003 + 103	**+Support 76150**	75528	M W F		R 117	7:00:00 AM	9:30:00 AM	John Mathewson	45.8		28	0
Math 003 + 103	**+Support 76161**	76145	M W F		C 364	9:45:00 AM	12:15:00 PM	Nikolay Yeganov	45.8		28	0
Math 003 + 103	**+Support 76162**	75578	M W F		R 321	13:15:00 PM	15:45:00 PM	Nikolay Yeganov	45.8		28	0
Math 003 + 103	**+Support 76159**	75768	M W F		C 308	16:00:00 PM	18:30:00 PM	Erlend Weydahl	45.8		28	0
Math 003 + 103	**+Support 76149**	75581	M W -		C 304	17:15:00 PM	21:00:00 PM	#N/A	45.8		28	0
Math 003 + 103	**+Support 76157**	72335	T R F		R 317	7:00:00 AM	9:30:00 AM	#N/A	45.8		28	0
Math 003 + 103	**+Support 76151**	75577	T R F		R 117	9:45:00 AM	12:15:00 PM	Michelle Ingram	45.8		28	0
Math 003 + 103	**+Support 76154**	71792	T R F		R 216	9:45:00 AM	12:15:00 PM	#N/A	45.8		28	0
Math 003 + 103	**+Support 76156**	75529	T R F		C 364	13:15:00 PM	15:45:00 PM	Jorge Encinas	45.8		28	0
Math 003 + 103	**+Support 76152**	74935	T R F		V 202	13:15:00 PM	15:45:00 PM	Michelle Ingram	45.8		28	0
Math 003 + 103	**+Support 76153**	75580	T R		V 202	17:15:00 PM	21:00:00 PM	#N/A	45.8		28	0
Math 003	**OPEN-HYBRID**	71141	M	2.8	C 304	9:45:00 AM	12:15:00 PM	#N/A	33.3	33.3	35	7
Math 003	**OPEN-HYBRID**	75530	T	2.8	R 117	19:00:00 PM	21:30:00 PM	#N/A	33.3	33.3	35	7
Math 003	**OPEN-HYBRID**	76516	- W	2.8	R 216	7:00:00 AM	9:30:00 AM	Raelynn Garcia	33.3	33.3	35	7
Math 003	**OPEN-HYBRID**	71247	W	2.8	C 302	16:00:00 PM	18:30:00 PM	#N/A	33.3	33.3	35	7
Math 003	**OPEN-HYBRID**	76141	- R	2.8	R 319	7:00:00 AM	9:30:00 AM	#N/A	33.3	33.3	35	7
Math 003	**OPEN-HYBRID**	76627	R	2.8	R 318	13:15:00 PM	15:45:00 PM	#N/A	33.3	33.3	35	7
Math 003	**OPEN-ONLINE + F2F Fin**	76147	- - -	5.9 + 2	Online Asynch			John Sepikas	33.3	33.3	35	7
Math 003	**OPEN-ONLINE + F2F Fin**	78396	- - -	5.9 + 2	Online Asynch			Xiaodan Leng	33.3	33.3	35	7
Math 003	**OPEN-ONLINE + F2F Fin**	78398	- - -	5.9 + 2	Online Asynch			Jose Castanon	33.3	33.3	35	7
Math 003	**OPEN-ONLINE + F2F Fin**	78334	- - -	5.9 + 2	Online Asynch			Xiaodan Leng	33.3	33.3	35	7
Math 003	**DUAL @ John Muir - HYE**	77167	T R	2.4	PCC NW D111	14:00:00 PM	15:30:00 PM	#N/A	33.3	33.3	35	7
Math 003	**DUAL @ SMHS - HYBRID**	80010	T R	2.4	San Marino HS	15:30:00 PM	17:05:00 PM	#N/A	33.3	33.3	35	7

MATH 005A - SINGLE VARIABLE CALCULUS I

CLASS	NOTES	CRN	Meeting Days	Online Hrs/Wk	Location	Start Time	End Time	Instructor	Load	OL Load	CLASS C	WAIT LIST
Math 005A	**OPEN**	71655	M W		R 321	7:00:00 AM	9:30:00 AM	#N/A	33.3		30	7
Math 005A	**OPEN**	72360	M W		R 317	9:45:00 AM	12:15:00 PM	Joshua Robles	33.3		30	7
Math 005A	**OPEN**	71660	M - W -		R 319	9:45:00 AM	12:15:00 PM	Israel Castro	33.3		30	7

Schedule | CRNs Per Round | Load Totals | Online Totals | PersonSchedule | **Room Schedule (All Classes)**

CLASS	NOTES	CRN	Meeting Days	Online Hrs/Wk	Location	Start Time	End Time	Instructor	Load	OL Load	CLASS C	WAIT LI
	MATH 003 - COLLEGE ALGEBRA FOR STEM											
CLASS	**NOTES**	**CRN**	**Meeting Days**	**Online Hrs/Wk**	**Location**	**Start Time**	**End Time**	**Instructor**	**Load**	**OL Load**	**CLASS C**	**WAIT LI**
Math 003	**OPEN**	76142	M W -		E 313	7:00:00 AM	9:30:00 AM	#N/A	33.3		35	7
Math 003	**OPEN**	74933	M W		C 157	9:45:00 AM	12:15:00 PM	Gonzaga Mendez	33.3		35	7
Math 003	**OPEN**	71604	M W		C 351	9:45:00 AM	12:15:00 PM	#N/A	33.3		35	7
Math 003	**OPEN**	75575	M W		R 109	13:15:00 PM	15:45:00 PM	#N/A	33.3		35	7
Math 003	**OPEN**	74390	M W		C 364	13:15:00 PM	15:45:00 PM	#N/A	33.3		35	7
Math 003	**OPEN**	77993	M W		R 209	13:15:00 PM	15:45:00 PM	#N/A	33.3		35	7
Math 003	**OPEN**	74236	M W		R 216	16:00:00 PM	18:30:00 PM	#N/A	33.3		35	7
Math 003	**OPEN**	75832	M W		R 109	19:00:00 PM	21:30:00 PM	#N/A	33.3		35	7
Math 003	**OPEN**	76628	T R		R 209	7:00:00 AM	9:30:00 AM	#N/A	33.3		35	7
Math 003	**OPEN**	76517	T R		R 109	9:45:00 AM	12:15:00 PM	#N/A	33.3		35	7
Math 003	**OPEN**	77996	T R		C 157	9:45:00 AM	12:15:00 PM	#N/A	33.3		35	7
Math 003	**OPEN**	76146	T R		R 109	13:15:00 PM	15:45:00 PM	#N/A	33.3		35	7
Math 003	**OPEN**	74934	T R		R 320	13:15:00 PM	15:45:00 PM	#N/A	33.3		35	7
Math 003	**OPEN**	77997	T R		C 304	16:00:00 PM	18:30:00 PM	#N/A	33.3		35	7
Math 003	**OPEN**	76613	T R		C 351	19:00:00 PM	21:30:00 PM	#N/A	33.3		35	7
Math 003 + 103	**+Support 76150**	75528	M W F		R 117	7:00:00 AM	9:30:00 AM	John Mathewson	45.8		28	0
Math 003 + 103	**+Support 76161**	76145	M W F		C 364	9:45:00 AM	12:15:00 PM	Nikolay Yeganov	45.8		28	0
Math 003 + 103	**+Support 76162**	75578	M W F		R 321	13:15:00 PM	15:45:00 PM	Nikolay Yeganov	45.8		28	0
Math 003 + 103	**+Support 76159**	75768	M W F		C 308	16:00:00 PM	18:30:00 PM	Erlend Weydahl	45.8		28	0
Math 003 + 103	**+Support 76149**	75581	M W -		C 304	17:15:00 PM	21:00:00 PM	#N/A	45.8		28	0
Math 003 + 103	**+Support 76157**	72335	T R F		R 317	7:00:00 AM	9:30:00 AM	#N/A	45.8		28	0
Math 003 + 103	**+Support 76151**	75577	T R F		R 117	9:45:00 AM	12:15:00 PM	Michelle Ingram	45.8		28	0
Math 003 + 103	**+Support 76154**	71792	T R F		R 216	9:45:00 AM	12:15:00 PM	#N/A	45.8		28	0
Math 003 + 103	**+Support 76156**	75529	T R F		C 364	13:15:00 PM	15:45:00 PM	Jorge Encinas	45.8		28	0
Math 003 + 103	**+Support 76152**	74935	T R F		V 202	13:15:00 PM	15:45:00 PM	Michelle Ingram	45.8		28	0
Math 003 + 103	**+Support 76153**	75580	T R		V 202	17:15:00 PM	21:00:00 PM	#N/A	45.8		28	0
Math 003	**OPEN-HYBRID**	71141	M	2.8	C 304	9:45:00 AM	12:15:00 PM	#N/A	33.3	33.3	35	7
Math 003	**OPEN-HYBRID**	75530	T	2.8	R 117	19:00:00 PM	21:30:00 PM	#N/A	33.3	33.3	35	7
Math 003	**OPEN-HYBRID**	76516	- W	2.8	R 216	7:00:00 AM	9:30:00 AM	Raelynn Garcia	33.3	33.3	35	7
Math 003	**OPEN-HYBRID**	71247	W	2.8	C 302	16:00:00 PM	18:30:00 PM	#N/A	33.3	33.3	35	7
Math 003	**OPEN-HYBRID**	76141	- R	2.8	R 319	7:00:00 AM	9:30:00 AM	#N/A	33.3	33.3	35	7
Math 003	**OPEN-HYBRID**	76627	R	2.8	R 318	13:15:00 PM	15:45:00 PM	#N/A	33.3	33.3	35	7
Math 003	**OPEN-ONLINE + F2F Fin**	76147	- - -	5.9 + 2	Online Asynch			John Sepikas	33.3	33.3	35	7
Math 003	**OPEN-ONLINE + F2F Fin**	78396	- - -	5.9 + 2	Online Asynch			Xiaodan Leng	33.3	33.3	35	7
Math 003	**OPEN-ONLINE + F2F Fin**	78398	- - -	5.9 + 2	Online Asynch			Jose Castanon	33.3	33.3	35	7
Math 003	**OPEN-ONLINE + F2F Fin**	78334	- - -	5.9 + 2	Online Asynch			Xiaodan Leng	33.3	33.3	35	7
Math 003	**DUAL @ John Muir - HYE**	77167	T R	2.4	PCC NW D111	14:00:00 PM	15:30:00 PM	#N/A	33.3	33.3	35	7
Math 003	**DUAL @ SMHS - HYBRID**	80010	T R	2.4	San Marino HS	15:30:00 PM	17:05:00 PM	#N/A	33.3	33.3	35	7
	MATH 005A - SINGLE VARIABLE CALCULUS I											
CLASS	**NOTES**	**CRN**	**Meeting Days**	**Online Hrs/Wk**	**Location**	**Start Time**	**End Time**	**Instructor**	**Load**	**OL Load**	**CLASS C**	**WAIT LIST**
Math 005A	**OPEN**	71655	M W		R 321	7:00:00 AM	9:30:00 AM	#N/A	33.3		30	7
Math 005A	**OPEN**	72360	M W		R 317	9:45:00 AM	12:15:00 PM	Joshua Robles	33.3		30	7
Math 005A	**OPEN**	71660	M - W -		R 319	9:45:00 AM	12:15:00 PM	Israel Castro	33.3		30	7