DA •O N C O LLEGE
MTA HEMTA IC• DE AT ME TN
F na Exa nat on

Mat at cs NYA Dat T u s ay D c b r
Calculus I Commerce T
Instructors M an B c Ma o Is I az a put Ja s qu a

I t v n t x sts n ts va u ot rw s xp a n w y t t o sn t x st

(4 marks) $\lim_{x \to 3} \dfrac{x^2 - x}{\sqrt{x^2 - x}}$

(4 marks) $\lim_{x \to 4} \dfrac{\sqrt{x} -}{x -}$

(5 marks) D r nt at t unct on $f(x)$ $(x -)^2$ us n t n t on o t r vat v as a t $f'(x)$ $\lim_{h \to 0} \dfrac{f(x+h) - f(x)}{h}$

(4 marks) F n t r vat v o $f(x)$ x^3 $\sqrt{x} - \dfrac{}{x}$

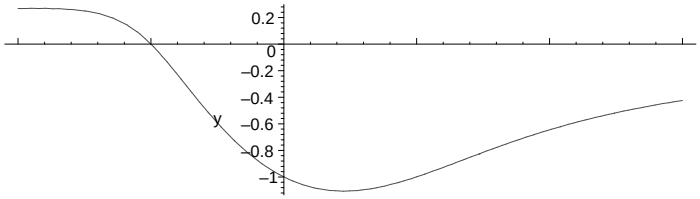
(5 marks) F n $f'(x)$ $f(x)$ $\frac{x^2}{}$ n x $- \frac{x^2}{}$

(5 marks) F n t r vat v o $f(x)$ $(\sin x)^2$ $\cos(x^3)$ $\arcsin(x)$

(5 marks) G v n t at $f(x)$ $\dfrac{}{x - }$ n t s con r vat v $f''(x)$

(5 marks) Co put $f'(x)$ v n t at $f(x)$ $e^{x^2} \sin x$

(5 marks)


0.2
0
–0.2
–0.4
–0.6
–0.8
–1
y

(4 marks) Co put t o ow n nt ra $\int \left(x^{2/3} \quad e^{x} - \frac{}{x^{2}} \right) dx$

Cons r t unct on f x x^{4} x^{3}

(1 marks) G v t o a n o f

(3 marks) F n t x nt rc pts any an t y nt rc pt

(3 marks) F n t nt rva s w r f s ncr as n an t nt rva s w r f s cr as n

(1 marks) F n t oca ax a an oca n a

(4 marks) F n t nt rva s w r f s concav up an t nt rva s w r f s concav own G v t n ct on po nts

(4 marks) s t n or at on abov to s tc t rap o f our rap as to a r w t t pr v ous answ rs C ar y n cat t coor nat s o t r at v opt u t nt rc pts an t n ct on po nts any

ANSWERS:

a / b / x - x² $\sqrt{x}$ $\frac{}{x^{2}}$ f x x n x

f x s n x cos x - x² s n x³ $\sqrt{\quad - x^{2}}$ f x $\overline{x - ^{3}}$ f

an —

f x x² ¹² x² x x - ^{1/3} $\left(\frac{x}{x^{2}} \quad \frac{x}{x^{2}} \quad \frac{}{x - } \right)$

a E $\frac{}{}$ ≈ . b It w caus t r v nu to ncr as y -x - -

b P . so t actua pro t ro pro uc n an s n t st sc s approx at y o ars c cop s o ars

approx p rsons p r w

No or zonta asy ptot two v rt ca asy ptot s x an x -

$-x^{5/3}$ e^{x} $\frac{}{x}$ C

a R b y nt rc pt an x nt rc pts an - , c f s ncr as n on - , ∞ an cr as n on -∞, - oca n an no oca ax d [(x)-4.24927]TJ/R9 11.