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76 80010/60/194
ID: SOUNDAONS!
Final Calculus (set 2)
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I. Multiple choice ayestions and
1. D 6. A 11. A 16. D
2. A () AND FO A A MINISTER AZ. A) N. A.C.
2 t
4. A 9. D 14. A 19. C
5. B 10. D 15. D 20. A
maite II Short answer Question it at a mitany is of (
4) We have $x' = x + 2 + x^2 - x - 2 = 0$ (3) $[x = -1]$
L 7= 2
The area of the region enclosed by the parabola $y = 2 - x^2$ and the line $y = -x$ is: $\int  x^2 - x - 2  = 9$
y= 2-x2 and the line y=-x
2 5 1 5 - (1) 8
is: $( x^2 - x - 2  = 9$
2
1-04-06
1) 0 - 1/x Dim ( = 1 ln(x)) - 1
1) $\lim_{x \to \infty} x^{1/x} = \lim_{x \to \infty} \left( e^{\frac{1}{x} \ln(x)} \right) = 1$
9 -1 8 -0 - ton m (5) ban (1) bails
3) $\int \frac{2x+4}{x^3-2x^2} dx = \int \frac{2}{x} dx - \int \frac{2}{x^2} dx + \int \frac{2}{x-2} dx$
$= -2\ln x  - \left(-\frac{2}{x}\right) + 2\ln x-2 $
1
1 D. L. 1 . 2. 1 . 1 . 1 . 2 . 1 . 2
$= -2 \ln  x  + \frac{2}{x} + 2 \ln  x-2  + c$

5)  $\int_{0}^{+\infty} \frac{dn}{1+n^{2}} = \lim_{A \to +\infty} \int_{0}^{+\infty} \frac{dx}{1+n^{2}}$ - lim arctanx /A
A > NOS = lim (arctan A - arctan O)
A700 = # 40 = # 2) For a junction to be diggerentiable it has to be continuous:  $\Rightarrow j(2) = j(2^{+}) = j(2) \Rightarrow 2a = 4a - 2b + 3$ (1) 20 + 2b + 3 = 0 (1) (1) 1 1 1 1 1 1 1 1 1 1  $\Rightarrow a = 4a - b$   $\Rightarrow b = 3a$ Solving (1) and (2) we get,  $a = \frac{3}{4}$ ,  $b = \frac{9}{4}$ 5-11 w/2 6 2 1 11 ml 5