

Solutions to Exam IIA Fall 2003

1. C

2. E

3. A

4. B

5. B

6. D

7. D

8. E

9. C

10. E

11. B

12. 6

13. $y + 3 = -\frac{36}{23}(x - 2)$

14. i) $g'(x) = e^x + ex^{e-1} + e^{-2x} - 2xe^{-2x};$

ii) $2 \sin(\tan x) \cos(\tan x) \sec^2 x + 3 \sec^2 x (\sec x \tan x)$

iii) $\frac{1}{2}(\sin \sqrt{2x})^{-1/2} \cos \sqrt{2x} \sqrt{2}$

15. i) $x = 2$

ii) $x = \pm 1$

16. $\frac{36}{5}$ ft/sec

17. $x = \frac{\ln 2}{2}$

18. i) $y + \frac{3}{4} = -\frac{7}{11}(x - 5)$

ii) $11\mathbf{i} - 7\mathbf{j}$

iii) $t = 2$