MATH 232 NAME:
16.2

Partial solutions for 1 3 4 6 7 19 8 22

1. $\int_0^3 2t\sqrt{(2t)^2+2^2}\,dt = \frac{4}{3}(10^{3/2}-1)$

3. $\int_{-\pi/2}^{\pi/2}(4\cos t)(\sin t)^4\sqrt{(-4\sin t)^2+(4\cos t)^2}\,dt = 1638.4$

4. $\int_0^1(2+3t)e^{4t}\sqrt{3^2+4^2} = \frac{85}{16}e^4 - \frac{25}{16}$

6. $\int_{-1}^1 e^{y^3}\cdot 3y^2\,dy = e - e^{-1}$

7. $\int_{C_1}(x+2y)\,dx + x^2\,dy + \int_{C_2}(x+2y)dx + x^2\,dy = 5/2$

19. $\int_0^1 F(r(t))\cdot dr = \int_0^2 F(r(t))\cdot r'(t)\,dt = 8$

8. $\int_{C_1} x^2\,dx + y^2\,dy + \int_{C_2} x^2\,dx + y^2\,dy = 83/3$

22. $\int_0^\pi \langle\cos t, \sin t, \cos t\sin t\rangle\cdot\langle-\sin t, \cos t, 1\rangle\,dt = 0$