

MA 162 Spring 2003, Answers to Exam I.

1) $\cos^{-1}\left(\frac{5}{6}\right)$

2) $A = -4, B = -16, C = -6, D = -51$

3) $\sqrt{11}$

4) $\frac{1}{2} - e^{-1}$

5) $\left\langle \frac{18}{14}, \frac{-9}{14}, \frac{-27}{14} \right\rangle$

6) $t=2$ or $\frac{6}{5}$

7) shell: $\int_0^2 2\pi x^4 dx$, washer: $\int_0^8 \pi(4 - y^{2/3}) dy$, area = $\frac{64\pi}{5}$

8) $\int_{-1}^3 [(3 - 3y) - (y^2 - 5y)] dy$

9) $C(t) = 22 + 4 \cos(\pi t/12), \quad \frac{1}{2} \int_2^4 C(t) dt = 22 + \frac{12}{\pi}(\sqrt{3} - 1)$