Lab quiz 14

1. Parameterize the line segment that starts at the point (-1,6) and ends at the point (2,-3)

   (A) $x(t) = -1 + 6t, y = 2 + 3t, t \in [0, 1]$

   (B) $x(t) = -1 + 3t, y = 6 - 9t, t \in [0, 1]$

   (C) $x(t) = -1 + 6t, y = 2 + 3t, t \in (-\infty, \infty)$

   (D) $x(t) = -1 + 3t, y = 6 - 9t, t \in (-\infty, \infty)$

   (E) $x(t) = -1 - 3t, y = 6 + 3t, t \in (-\infty, \infty)$

2. Which of the following formulas would give the length of the outer loop for the curve $r = 1 + 2sin\theta$

(I) $2\int_{\frac{\pi}{2}}^{\frac{7\pi}{6}} \sqrt{(1+2sin\theta)^2 + (2cos\theta)^2}d\theta$

(II) $\int_{0}^{\frac{7\pi}{6}} \sqrt{(1+2sin\theta)^2 + (2cos\theta)^2}d\theta + \int_{\frac{11\pi}{6}}^{2\pi} \sqrt{(1+2sin\theta)^2 + (2cos\theta)^2}d\theta$

(III) $\int_{0}^{\pi} \sqrt{(1+2sin\theta)^2 + (2cos\theta)^2}d\theta + 2\int_{\pi}^{\frac{7\pi}{6}} \sqrt{(1+2sin\theta)^2 + (2cos\theta)^2}d\theta$

(IV) $\int_{0}^{2\pi} \sqrt{(1+2sin\theta)^2 + (2cos\theta)^2}d\theta - \int_{\frac{7\pi}{6}}^{\frac{11\pi}{6}} \sqrt{(1+2sin\theta)^2 + (2cos\theta)^2}d\theta$

(A) I and II only

(B) II and III only

(C) III and IV only

(D) I,III and IV only

(E) I, II, III and IV

3. Which of the following formulas would give the length of the outer loop for the curve $r = 1 - 2cos\theta$

(I) $\int_{\frac{\pi}{3}}^{\frac{5\pi}{3}} \sqrt{(1-2cos\theta)^2 + (2sin\theta)^2}d\theta$

(II) $2\int_{\pi}^{\frac{5\pi}{3}} \sqrt{(1-2cos\theta)^2 + (2sin\theta)^2}d\theta$

(III) $2\Big(\int_{0}^{\pi} \sqrt{(1-2cos\theta)^2 + (2sin\theta)^2}d\theta - \int_{0}^{\frac{\pi}{3}} \sqrt{(1-2cos\theta)^2 + (2sin\theta)^2}d\theta\Big)$

(IV) $\int_{0}^{2\pi} \sqrt{(1-2cos\theta)^2 + (2sin\theta)^2}d\theta - \int_{\frac{5\pi}{3}}^{\frac{7\pi}{3}} \sqrt{(1-2cos\theta)^2 + (2sin\theta)^2}d\theta$

(A) I and II only
(B) II and III only
(C) III and IV only
(D) I,III and IV only
(E) I, II, III and IV

Labs quiz #1 ~~4~~
Q4 - ~~A~~
Q5 - A

Try the above two
$r = 1 + 2\cos\theta$
$r = 1 - 2\sin\theta$