

$$x = \cos t \quad y = \sin t \quad z = 0 \quad r = (\cos t, \sin t, 0)$$
$$r' = (-\sin t, \cos t, 0)$$

$$(2\sin t, 2\cos t, \cos t \sin t + 3\cos t + t \sin t) \cdot (\sin t, \cos t, 0)$$

$$2\sin^2 t + 2\cos^2 t + 0 = 2(\sin^2 t + \cos^2 t) = 2(1) = 2$$

$$\int_0^{2\pi} 2 dt = 2t \Big|_0^{2\pi} = 4\pi$$