

1. $r'(t) = \langle -10\sin(t), 10\cos(t) \rangle$
 $\int_0^{2\pi} 7(10\sin(t))(-10\sin(t)) + 3(10\cos(t))(10\cos(t)) dt$
2. $T = 5 + 5(x-1) + 5(y-1)$
3. Abs min=0/ abs max=0
4. $F_{xyz} = -2\cos(x^2+y+z) + 4x^2\sin(x^2+z+y)$
5. -1
6. $r(\pi/4) = \langle 1, 0, e^{3\pi/4} \rangle$
7. $\int_0^1 (t+2t+4t)^3 dt$
8. $\sin(\pi/3) * \lim_{t \rightarrow \pi/2} \cos(t) = 0$
9. $\int_0^1 (5t(2t) + 5t^2 + 6t^2(2t)) dt$
10. $\int_0^{2\pi} 50 ds = 100\pi$
11. 3
12. $|6 \ 3|$
 $|1 \ 1| = 3$
13. max/min=none, saddle=(0,0), (6,18)