

Day 2 AP Practice:

- 1) D 2) B 4) A 5) C
6) E 7) B 8) D

FR:

$$1) \quad c) \quad \int_0^{12} r'(t) dt \approx 2(4.0) + 3(2.0) + 2(1.2) + 4(0.6) + 1(0.5) \\ = 19.3 \text{ ft}$$

$\int_0^{12} r'(t) dt$ is the change in the radius, in feet, from $t=0$ to $t=12$ minutes

d) Since r is concave down, r' is decreasing on $0 < t < 12$. Therefore the approximation, 19.3 ft, is less than $\int_0^{12} r'(t) dt$.

2) a) MRAM:

$$10 [v(5) + v(15) + v(25) + v(35)] \\ = 10 (9.2 + 7.0 + 2.4 + 4.3) = 229$$

The integral gives the total distance in miles that the plane flies during the 40 minutes.

$$3) \quad d) \quad \frac{3}{2}(-1 + 2(0 + 1 + 3 + 1 + 0) - 1) = 12$$

$$4) \quad b) \quad \frac{3}{2}(20 + 2(31) + 2(28) + 2(24) + 2(22) + 21) \\ = 376.5$$

$$\text{Avg Temp} \approx \frac{1}{15}(376.5) = 25.1^\circ\text{C}$$