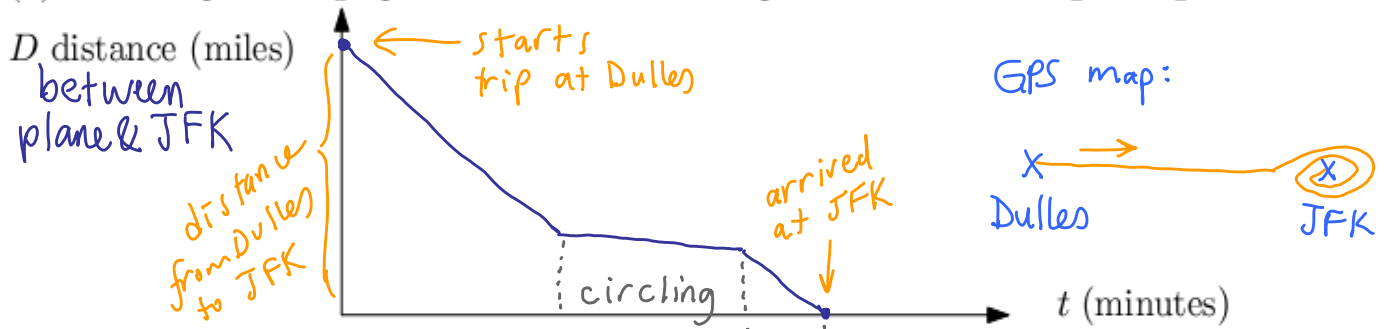
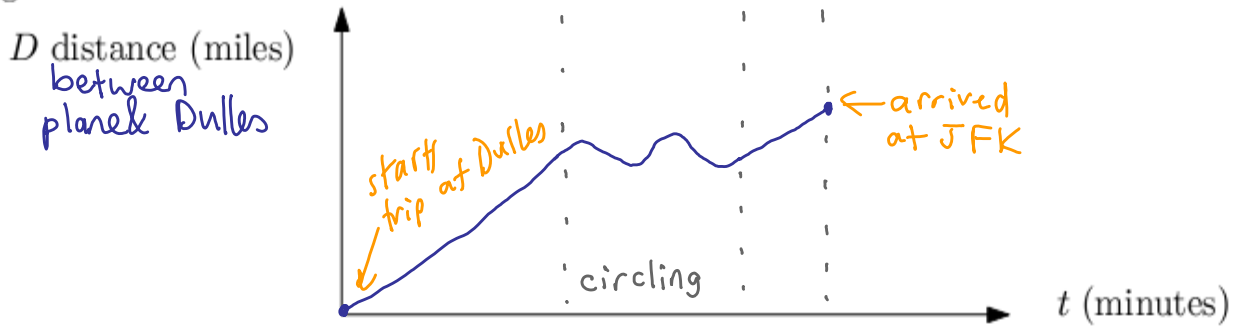


1. A plane is flying from Dulles airport to JFK, but has to circle several times around JFK before landing.

(a) Sketch a possible graph of the distance of the plane to **JFK** during its flight.



(b) Sketch a possible graph of the distance of the plane to **Dulles** during its flight.



2. Given $8x + 5y = 20$, express it as a linear function of x in standard form. Find its vertical and horizontal intercepts.

standard form $\boxed{y = 4 - \frac{8}{5}x}$

vert. intercept: $x=0 \rightarrow y = 4$

horiz. intercept: $y=0 \rightarrow 8x = 20$
 $x = \frac{5}{2} = 2.5$

3. A lawn care company charges \$200 for mowing 5 acres of land, and charges \$350 for 10 acres of land. Find the linear function for the cost C as a function of the area a .

a	C
5	200
10	350

$$C = f(a) = b + m \cdot a$$

$$\text{slope} = m = \frac{\Delta C}{\Delta a} = \frac{350 - 200}{10 - 5} = 30 \text{ \$/acre}$$

$$C = b + 30a \quad b = ?$$

plug in $a=5$
 $C=200 \rightarrow 200 = b + 30 \cdot 5$
 $200 = b + 150$
 $50 = b$

$$\underline{\underline{C = 50 + 30a}}$$