

Q1

a) 2km path:  $.20 \cdot 3 + .30 \cdot 5 + .50 \cdot 2 =$   
 $.6 + 1.5 + 1 = \frac{2}{3.1 \text{ km/h}} = .64 \text{ hr}$

1.8 km:  $.40 \cdot 3 + .2 \cdot 5 + .40 \cdot 2$   
 $1.2 + 1 + .8 = \frac{1.8}{3 \text{ km/h}} = .6 \text{ hr}$

3.1 km:  $.8 \cdot 3 + .4 \cdot 5 + .1 \cdot 2$   
 $1.5 + 2 + .2 = \frac{3.1}{3.7 \text{ km/h}} = .83 \text{ hr}$

b) 2 km:  $.70 \cdot .64 \text{ hr} + .3 \cdot (.64 + .75)$   
 $.448 + .417 = .865 \text{ hr}$

1.8 km:  $.60 \cdot (.6 + 1) + .40 \cdot .6$   
 $.96 + .24 = 1.2 \text{ hr}$

3.1 km: .83 hr

c)  $\frac{3.1 \text{ km}}{5 \text{ km/h}} = .62 \text{ hr}$   $.83 \cdot .6 + .62 \cdot .4$   
 $.498 + .248 = .746 \text{ hr}$

yes, I would wait 5 minutes (.084 h)  
 for this information