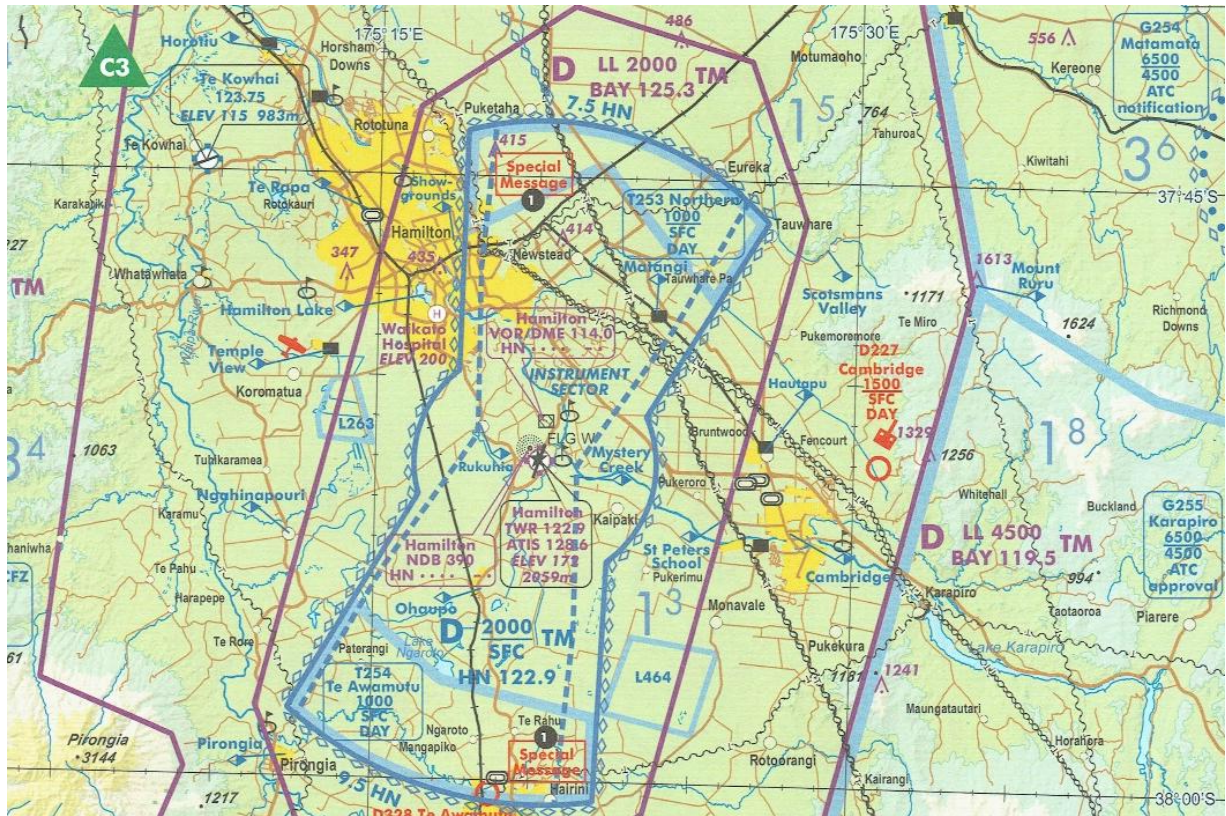


Navigation Exercises

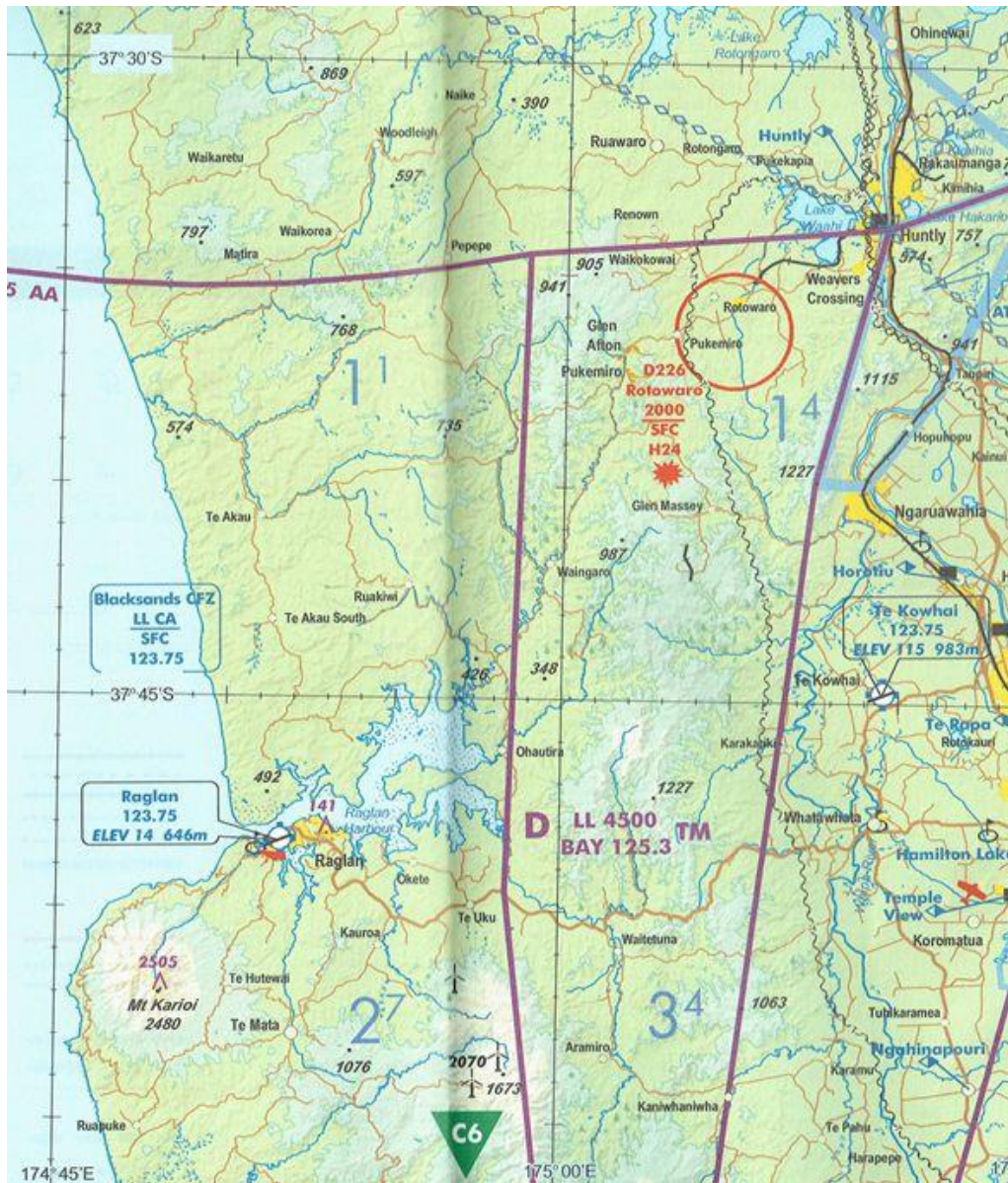
1. Map reading

Draw a straight line from Te Kowhai Airfield to Mt Ruru Visual Reporting Point. List all topographic and aeronautical map features that are within ± 1 nautical mile of this track (left/right from that line).



2. Map reading task

- 2.1. Using a protractor and ruler, measure the true track (distance and angle) from Raglan AF to Huntley VRP, Huntley to Raglan; Raglan AF to Horotiu VRP, Horotiu to Raglan.



2.2. Coordinates

Read the coordinates for Te Kowhai airfield as good as you can.

What is at 37 53 49.92S 175 12 20.27E ?

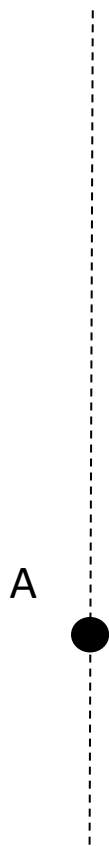
3. Graphical wind solution

3.1. Repeat lesson

Given: Track A to B = 71°
Wind = 34 kn ; 24°
TAS = 110 kn

Determine: Wind correction angle incl. left/ right (+/-)
True heading
Ground speed

True North



3.2. New problem

3.2.1. Graphical

Given: Track Horotiu VRP to Raglan AF
Wind = 34 kn, 20° T
TAS = 100 kn

Determine: Wind correction angle incl. left/ right (+/-)
Magnetic heading
Ground speed

3.2.2. Repeat with calculator

3.2.3. Repeat with E6B

4. Planning practice

Plan a flight in a Zenith CH601XL using maps, ruler, protractor, and calculator (no flight planning app)

From Te Kowhai via

Kawakawa Bay,
Orewa,
NZSL (Springhill)

to Dargaville (and back if time allows). Generate a VFR flight log for that flight.

Area forecast: TA	1000	30015
	3000	31020
	5000	32015
FN	1000	27005
	3000	28010
	5000	25005

Zenith: cruise 90kts at 18L/hr, climb 60kts at 25L/hr.

Waypoint Co-ordinates	Airport:	North ▲	True Course	Wind Direction	Wind Speed	Magnetic Heading	Altitude	MSA	Fuel (ltr) Leg	Dist.(nm) Leg	GS - Est. (knots)	ETE	ETA	Parking
			TC	WD	WS	MH	(ft)	(ft)	Rem	Rem	GS - Act.	ATE	ATA	hrs:min

5. Aircraft loading

Is this aircraft within its weight and balance limits for full end empty tanks?

	ltr	weight [kg]	arm [m]	moment [kg m]
empty		305	1.723	
pilot & passenger		190	1.760	
fuel	90		1.660	
luggage		20	2.210	
TOTAL				
Limits	min		1.727	
	max	544	1.769	

6.1. Basics

Determine: Wind correction angle incl. left/ right (+/-)
Magnetic heading
Ground speed

6.2. Return to base

Determine return magnetic heading using the quick method.

6.3. Course correction, 1 : 60

You find yourself over Rangiriri township. What closing angle and magnetic heading is required to get to Orere Point?

6.4. Modified standard closing angle

What is the modified standard closing angle for this aircraft?

You find yourself over Glen Murray township. Using the mod. standard closing angle, what magnetic heading do you fly for how long to get back onto your planned track?

7. Navigation (landmarks)