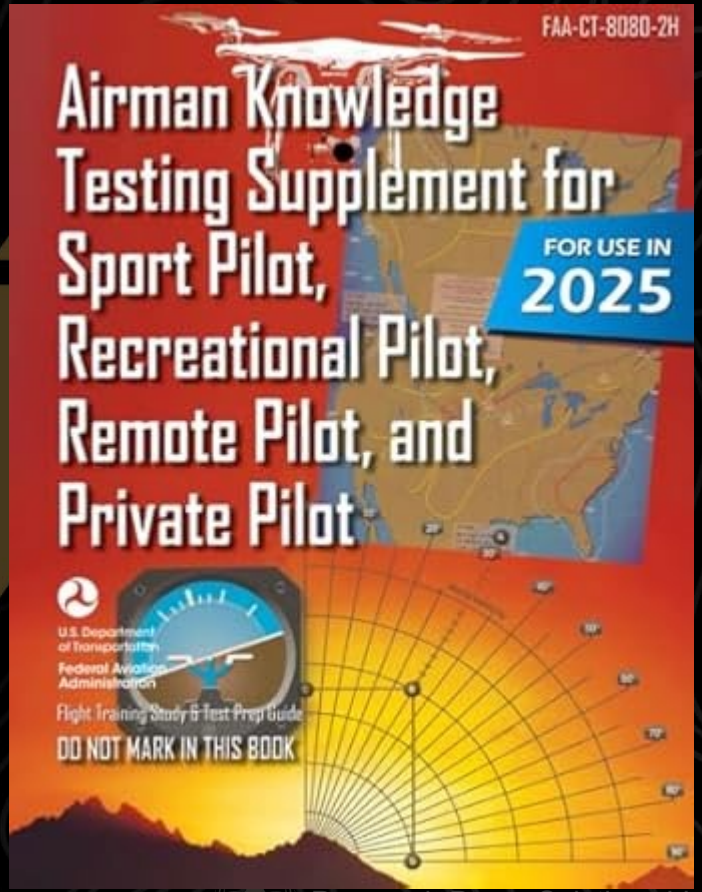
2. Airspace

2.2 - Longitude and Latitude Review

Airman Knowledge Testing Supplement

Many of the points covered in the slideshow and quiz reference images and concepts found in the “Airman Knowledge Testing Supplement”.

You can download the document from the FAA here. Alternatively, a hard copy can be purchased online for around $10.



Structure & Formatting Reminder

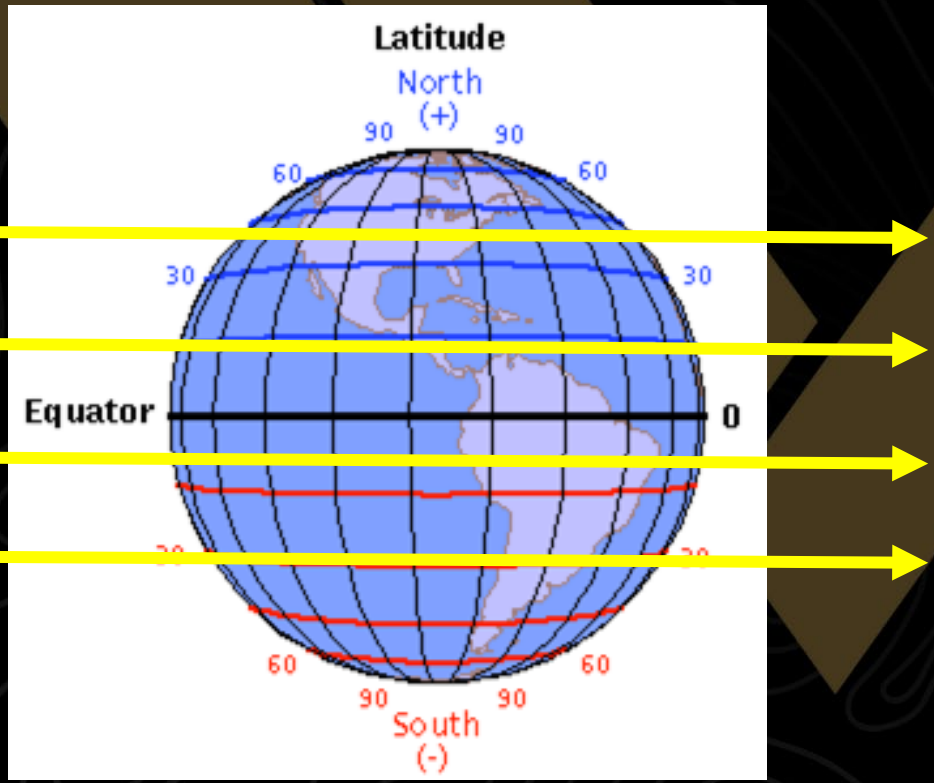
This presentation is provided as a reference to help you prepare for the your exam. It seeks to go beyond memorization and provide explanation and rationale.

While this reference considers many of the points covered in the exam, given the bredth it is in no way exhaustive. It is suggested to consult a variety of resources when preparing for the exam.

Text that is marked in YELLOW has a high probability of being referenced directly in one of the exam's nearly 400 possible questions.

Take the quiz at the end to gauge your understanding.

2.2 - Latitude



- Lines that run East and West across the globe.
- Measure distance North and South from the equator.

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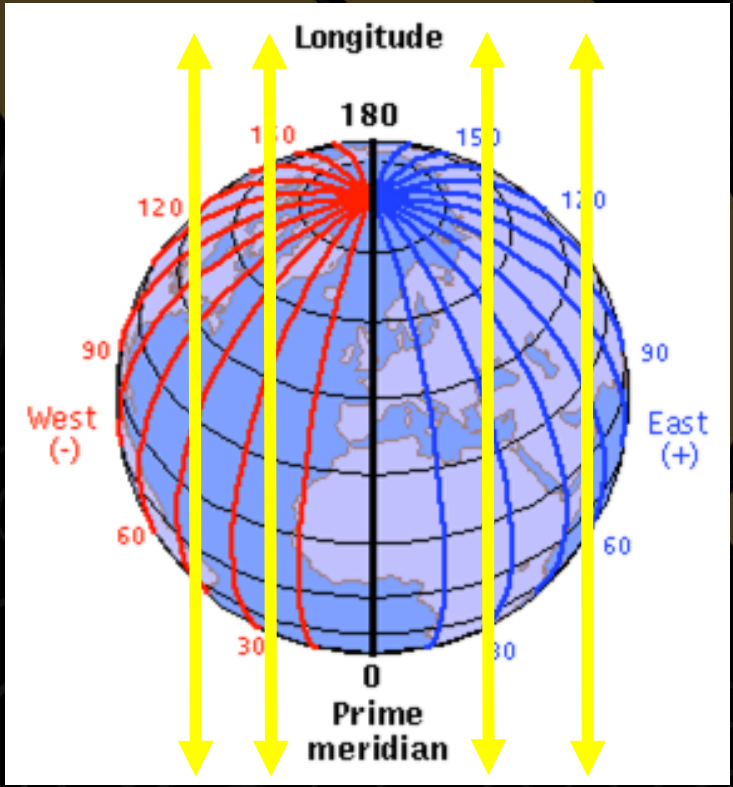
2.2 - Latitude

- As you move North of the Equator (0 degrees) the numbers get larger (positive numbers).
- As you move South of the Equator (0 degrees) the numbers get smaller (negative numbers).

2.2 - Longitude



- Lines that run North and South across the globe.
- Measure distance East and West from the prime meridian (runs through Western Europe and Africa)

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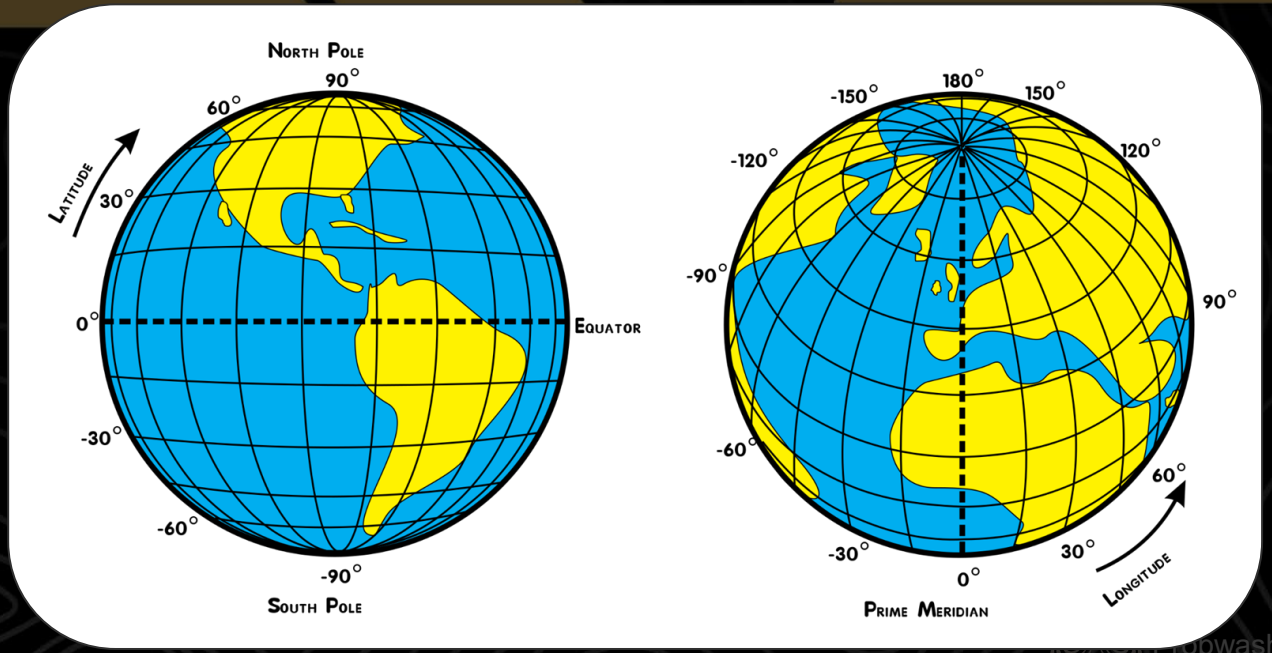
2.2 - Longitude

- As you move East of the Prime Meridian (0 degrees) the numbers get larger (positive numbers).
- As you move West of the Prime Meridian (0 degrees) the numbers get smaller (negative numbers).

2.2 - Degrees, Minutes, & Seconds

The earth is divided into 360 degrees

- There are 60 minutes in each degree.
- There are 60 seconds in each minute.



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2.2 - Degrees, Minutes, & Seconds

Degree = °

Minute = ‘

Second = “

How many seconds are in 1 degree?

How many seconds are in 1 degree?

If there are 60 seconds in 1 minute

And there are 60 minutes in 1 degree

60 seconds x 60 minutes

—

60 x 60 = 3,600 (seconds in 1 degree)

How many seconds make up the Earth?

How many seconds make up the Earth?

3,600 seconds per degree

360 degrees on Earth

—

3,600 x 360 = 1,296,000 seconds on Earth

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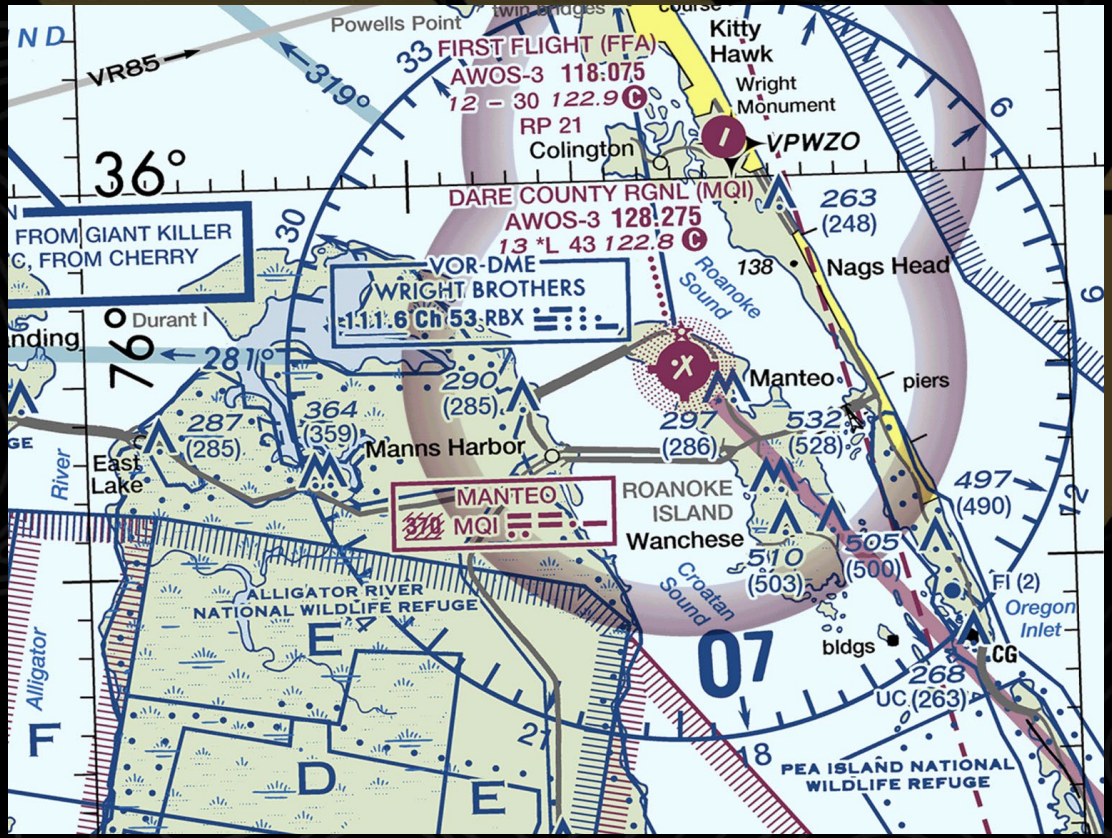
2.2 - Degrees, Minutes, & Seconds



On the sectional maps:

Each tick mark is a minute

1 minute latitude

=

1 nautical mile

=

1.15 land miles

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2.2c - Degrees, Minutes, & Seconds

- 1 tick mark = 1 minute
- Every 10th minute is larger
- Every grid line represents 30 minutes (half of 1 degree)
- NOTE: only every other gridline is labled.

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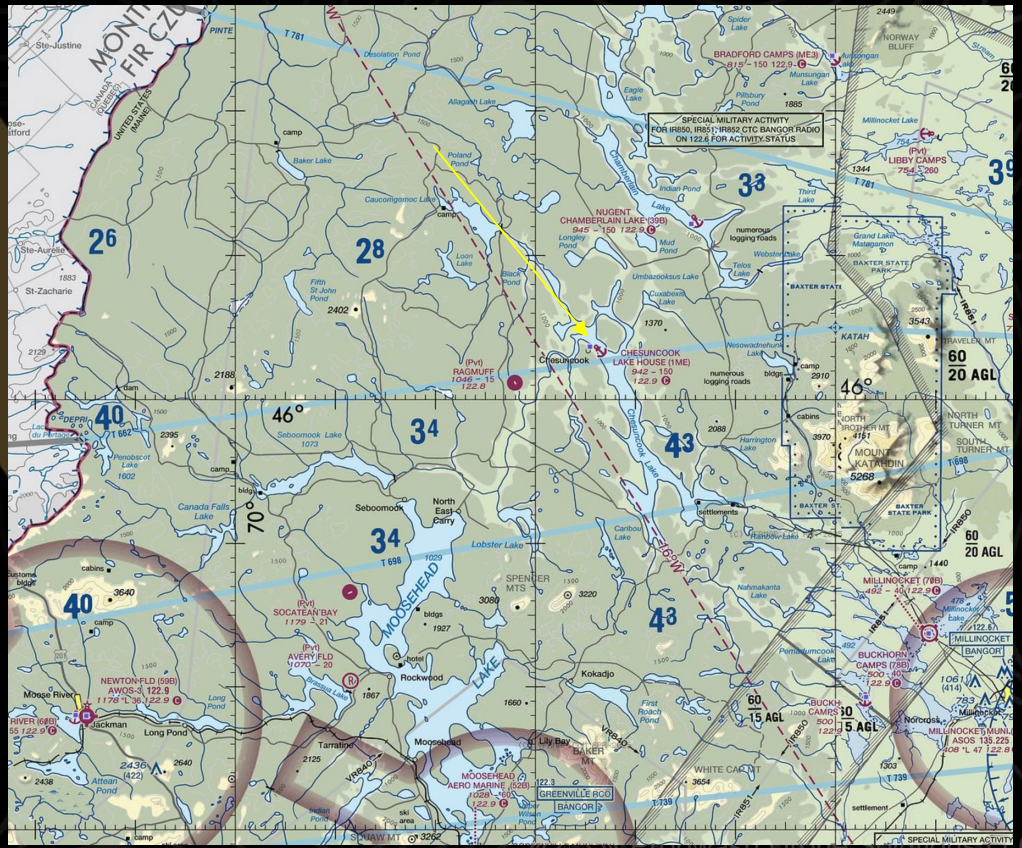
2.2e - Lat/Long Practice- What is the latitude of the Chesuncook Seaplane Base?



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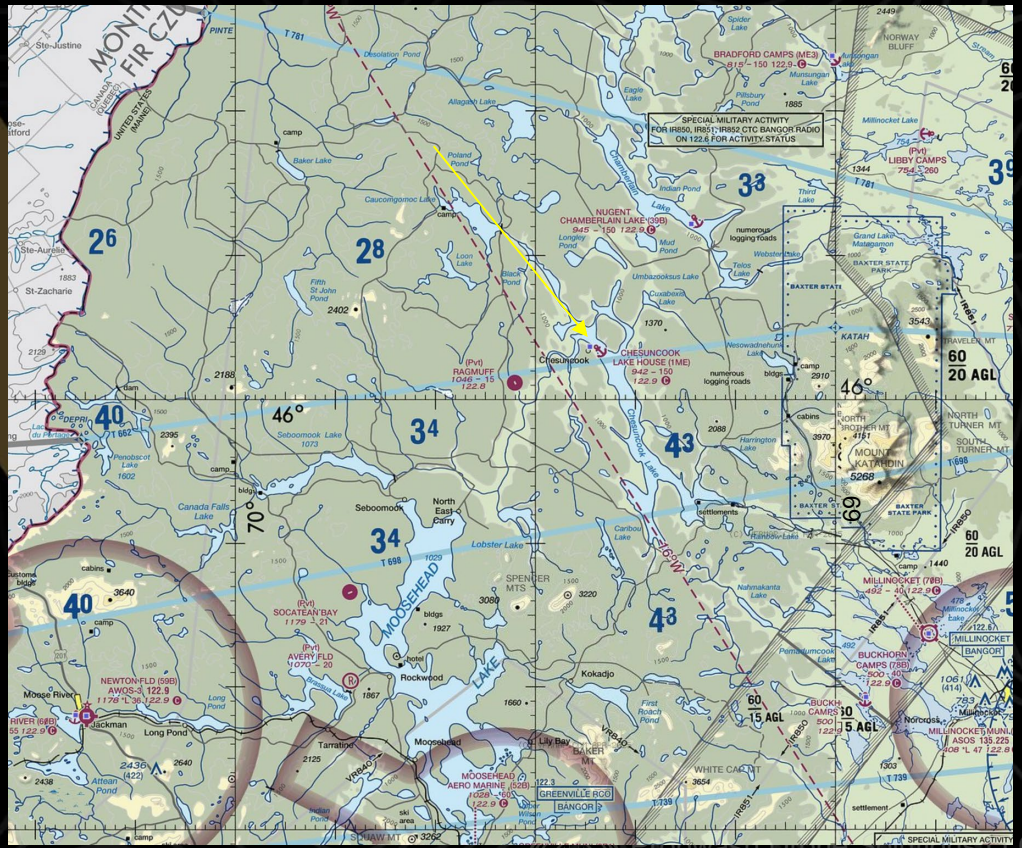
2.2e - Lat/Long Practice- What is the latitude of the Chesuncook Seaplane Base (1ME)?

Approx.
46° 4’

or

46.07
(decimal from 60)

+ (north of the equator)



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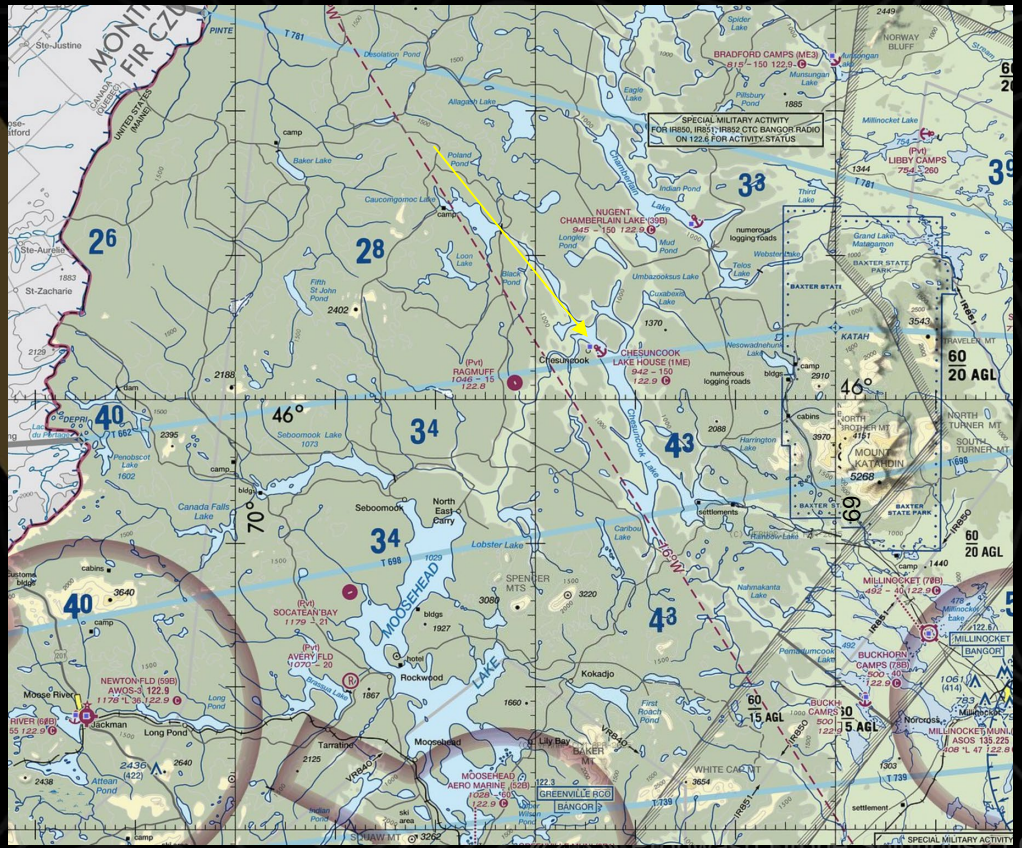
2.2e - Lat/Long Practice- What is the longitude of the Chesuncook Seaplane Base (1ME)?

Approx.
69° 24’

or

-69.40
(decimal from 60)

- (west of the prime meridian)



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Moving from minutes and seconds to decimal.

Converting 46° 4’

-

46 + 4/60 = 46 + 0.0667 = 46.07°

46.07 Decimal Form

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+ or -?

Remember:

For latitude + is north of the equator

For longitude - is west of the Prime Meridian

Unit 2 Airspace – 2.2 Review Quiz

- 2.2 - Longitude & Latitude Review - QUIZ
- This quiz contains 8 questions.
  - You may take it as many times as you like.
  - The order of questions are randomized each time.
  - The large majority of the questions are worded exactly as they appear on the exam.