

**Steps to determine the time when given 2 longitudes and 1 time.**

1. Draw a map that shows 2 lines of longitude. Label the longitudes on the top and the known time on the bottom. The longitude which is further west should be put on the left line. If the longitudes are in different hemispheres put the prime meridian in between them.
2. Calculate the difference in longitude between the 2 locations. If the locations are in the same hemisphere you will need to subtract the values. In opposite hemispheres you will have to add the values.
3. Divide the difference in longitude by  $15^\circ$ . (Every  $15^\circ$  of longitude is an hour time difference)
4. Add or subtract the time difference from the known value. East is later and west is earlier.

Sample problems -

1) It is 2 pm in NY city. ( $75^\circ W$ ) What time is it in Moscow, Russia ( $75^\circ E$ )

2) It is 11 am in New York ( $75^\circ W$ ) What time is it in Alaska ( $150^\circ W$ )

**Steps to determine the longitude when given 1 longitude and 2 times.**

1. Draw a map that shows 2 lines of longitude. Label the longitude on the top and the known times on the bottom. The later time should be drawn on the line of longitude which is farther east. (right)
2. Calculate the difference in time between the 2 locations. (number of hours)
3. Multiply the difference in time by  $15^\circ$  (Every hour of time difference is a change of  $15^\circ$  of longitude)
4. Determine the longitude of the other location. Be careful because you may cross the prime meridian.

Sample problems -

1) Your time is 3 a.m. If it is 11 am at the prime meridian, what is your longitude?

2) Your time is 4 p.m. If it is 10 am at  $15^\circ W$  What is your longitude?