

My daughter is in Cambodia.  
When should I call her?



I need help. I know that I can just Google the time of day in Cambodia but I want to understand what is going on here.

I have to reach her on Skype and I want to reach her just before her dinner in Cambodia time. Will I be awake? When will that be in Boston time?

I looked the present time up at <http://www.worldtimeserver.com/>

Boston, Massachusetts	is	Phnom Penh, Cambodia
6:30pm Tuesday		5:30 am Wednesday

1. Since it is Wednesday in Phnom Penh and Tuesday in Boston, I guess the time is ahead in Cambodia ... I should add hours to get Phnom Penh time. How many hours should I add to the Boston time to get the time in Cambodia?
2. But I thought that since the sun rises in the East it should be earlier in the west. Isn't California time 4 hours earlier than Boston's time? Why is Cambodia time later? (You may have to do some research to answer this.)

I could also rewrite the information above like this:

Phnom Penh, Cambodia	is	Boston, Massachusetts
5:30 am Wednesday		6:30pm Tuesday

3. How can I calculate Boston time from knowing Phnom Penh time?

Another time calculator said that Cambodia's time is GMT + 7 hours and that Boston's time is GMT – 4 hours. (In Boston we are on daylight saving's time. If it were winter, Boston time would be GMT – 5 hours.)

Greenwich Mean Time<sup>1</sup> (GMT) is the time of day registered at the Greenwich Observatory outside of London. Greenwich, England is located at 0 degree longitude of the Earth = **prime meridian**.

Various countries and organization use different time notations.

The British Isles use GMT (although right now they are on British Summer Time = GMT + 1 hour.

Scientists use Coordinated Universal Time (UTC) = GMT.

Nautical time is referred to as Zulu time. Zulu is the amateur radio word to say the letter "z". Z hours are the standard time unit in aviation and it is the same as UTC or GMT. This convention helps communication in aircraft since planes are often traveling between time zones and must reference time in communications according to anywhere on Earth.

4. How could the GMT + or - notation help me figure out what time it is in Cambodia if I know the Boston time?

5. What time and day is it in Greenwich when it is 6pm in Cambodia?

6. What time and day is it in Greenwich when it is 6pm on Friday in Massachusetts?

7. What time and day is it in Phnom Penh when I wake up in the morning at 6:30am on Friday in Boston?

8. The Summer Olympics are happening in London right now. If it is 8am in Boston, what time is it in London? Would you expect that the Olympiads to be competing then or sleeping?

<sup>1</sup>At the Greenwich observatory astronomers can observe when the sun reaches it's highest point in the sky over Greenwich. Because of the Earth's tilt, uneven speed, and it elliptical orbit the Sun is directly overhead at Greenwich by as much as 16 minutes before or after 0:00 GMT. That is why the time is called **Mean** time ... it is the average time that the Sun is overhead at Greenwich.

Sources:

[http://en.wikipedia.org/wiki/Greenwich\\_Mean\\_Time](http://en.wikipedia.org/wiki/Greenwich_Mean_Time)

<http://www.worldatlas.com/aatlas/infopage/dateline.htm>