Around the World in 4o hours – Answer Key

**Phil Fogg was at the Ka'ahele Club in Honolulu sharing vacation photos. Another member remarked that it seems as if Mr. Fogg had flown around the world. “Not yet,” replied Fogg, “but I bet I could make it in less than two days time.”**

**Follow Mr. Fogg on his journey across time zones as he travels around the world in 40 hours.**

**Example:** ***At 4:00PM, Mr. Foster takes a Friday flight from Vancouver to Hong Kong. If the duration of the flight was 12 hours and 45 minutes, what time did he arrive?***

1. First, calculate the travel time for Vancouver’s time zone.

16:00 + 12:45 = 28:45

 Start + Elapsed = End

 time time time

 28:45 = 24:00 + 4:45

 so 28:45 = 4:45AM, Saturday on Vancouver time

2. Next, convert Vancouver’s time to Hong Kong time.

Hong Kong time = Vancouver time – **UTC** Vancouver + **UTC** Hong Kong

Hong Kong time = Time A – **UTC** A + **UTC** B

=04:45 – (–8:00) + (8:00)

 =12:45 + (8:00)

 = 20:45 or 8:45PM, Saturday on Hong Kong time

The answer is on Saturday because he crossed the International Dateline to get from Vancouver to Hong Kong. He left Vancouver on Friday at 4PM and arrived in Hong Kong on Saturday night at 8:45PM even though his flight was 12 hours and 45 minutes long.

Notes:

**Directions:**

1. **Open Google Earth and load the *Around the World* file. Deselect all *Layers* in the left sidebar menu. Collapse the *Layers* and *Search* portions of the sidebar.**
2. **Open the *Around the World* folder - be sure to expand the *Cities* folder inside.**
3. **Double-click on a city’s name in the left sidebar and you will be brought to that location. Find a white circle icon that is in the same colored region as the city. Click on the icon and you will find the time zone adjustment for that region.**
4. **Repeat step 3 as needed.**
5. **Use information from the Travel Log and Google Earth to solve the problems. Show your work below.**
6. **First calculate the time of arrival using the elapsed time. Next, convert to the time zone you arrived in. Use the formula and work down. Daylight savings time will not be considered in the answers.**
7. **Fill out the travel log as you complete the problems.**

Flight 1: Honolulu → Tokyo

**Elapsed time: 14:00 + 7:42 = 21:42**

**Time B = Time A – UTC A + UTC B**

**B = 21:42 – (–10:00) + (+9:00)**

**B = 31:42 + 9:00**

**B = 40:42**

**B = (40:42 = 24:00 + 16:42)**

**B = 16:42, Wednesday**

**or 4:42PM, Wednesday, Tokyo time**

Flight 2: Tokyo → New Delhi

**Elapsed time: 16:42 + 7:15 = 23:57**

**Time B = Time A – UTC A + UTC B**

**B = 23:57 – (+9:00) + (+5:30)**

**B = 14:57 + 5:30**

**B = 20:27, Wednesday**

**or 8:27PM, Wednesday, New Delhi time**

Flight 3: New Delhi → Paris

**Elapsed time: 20:27 + 8:00 = 28:27 (04:27 Thu)**

**Time B = Time A – UTC A + UTC B**

**B = 28:27 – (+5:30) + (+1:00)**

**B = 22:57 + 1:00**

**B = 23:57, Wednesday**

**or 11:57PM, Wednesday, Paris time**

Flight 4: Paris → Philadelphia

**Elapsed time: 23:57 + 7:24 = 31:21 (07:21 Thu)**

**Time B = Time A – UTC A + UTC B**

**B = 07:21 – (+1:00) + (–5:00)**

**B = 6:21 + (–5:00)**

**B = 01:21, Thursday**

**or 1:21AM, Thursday, Philadelphia time**

Flight 5: Philadelphia → San Francisco

**Elapsed time: 1:21 + 5:00 = 6:21**

**Time B = Time A – UTC A + UTC B**

**B = 06:21 – (–5:00) + (–8:00)**

**B = 11:21 + (–8:00)**

**B = 03:21, Thursday**

**or 3:21AM, Thursday, San Francisco time**

Flight 6: San Francisco → Honolulu

**Elapsed time: 3:21 + 4:39 = 8:00**

**Time B = Time A – UTC A + UTC B**

**B = 08:00 – (–8:00) + (–10:00)**

**B = 16:00 + (–10:00)**

**B = 06:00, Thursday**

**or 6:00AM, Thursday, Honolulu time**

** *Aloha!***