IQ

• The Earth’s moon was formed by being gravitationally “pulled out” of the Earth where the Pacific Ocean is now formed.

• T
• F
• Naahhh! The answer is F.

• The moon was formed immediately after formation of the Earth, probably as the result of a collision of the Earth with another proto-planetary body.
The moon has seas (maria, singular mare) of liquid water.

• T
• F.
**IQ**

- The correct answer is F.
- The *maria* (seas) are lava flows that occurred on the Moon’s surface about 3.5 billion years ago.
- The Moon has no liquid surface water.
- Look – no water! →
- In fact, moon rocks contain no water – Earth rocks do.
The average density of the Moon is less than the average density of the Earth because:

A. The Moon is further from the Earth
B. The Moon formed from the Earth’s mantle after it differentiated
C. I don’t know
D. Earth has water oceans
B. The molten Earth differentiated as it was formed – the heavy elements (e.g. iron) sank into the core.

A protoplanetary body impacted the differentiated Earth, sending (mostly) crust and mantle material into orbit about the Earth. The Moon formed from that material.
IQ

- The lunar far side is almost identical to the near side (the side we can see from Earth).

- T
- F
IQ

• F. False, false, false!

• The lunar far side has massive craters and no maria (plural of mare).

• It is hypothesized that the crust on the lunar far side is thicker on the near side, thus less prone to cracks from meteorite bombardment.
• The Moon rotates once per revolution (synchronous rotation), whereas Mercury rotates 1 ½ times per revolution (3-to-2 spin-orbit coupling). Both are examples of a resonance.

IQ

• T
• F
• T. The statement is true.

• A *resonance* represents a coupling process that results in simple numerical relationships between dynamical processes – such as rotation and orbital revolution.