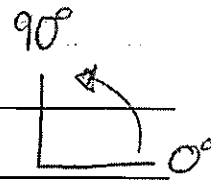


1) Explain what is meant by each of the following words:

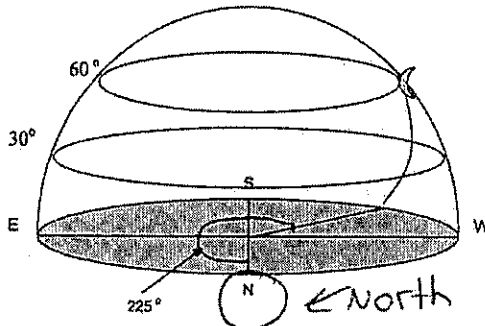
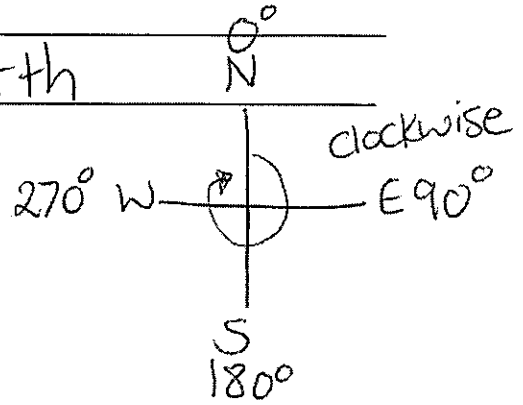
**Altitude:** \_\_\_\_\_

Height up from ground



**Azimuth:** \_\_\_\_\_

Rotation from North



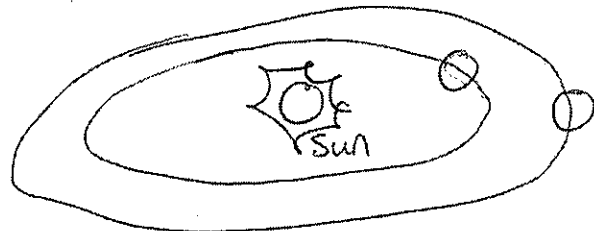
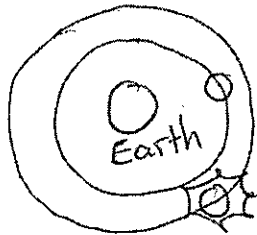
What are the sky co-ordinates for the Moon in the illustration above?

Azimuth 225° Altitude 60°

2) Illustrate and explain the different models of the solar system identified below.

**Geocentric - The Earth-Centred Model**

**Heliocentric - The Sun-Centred Model**



Earth centered

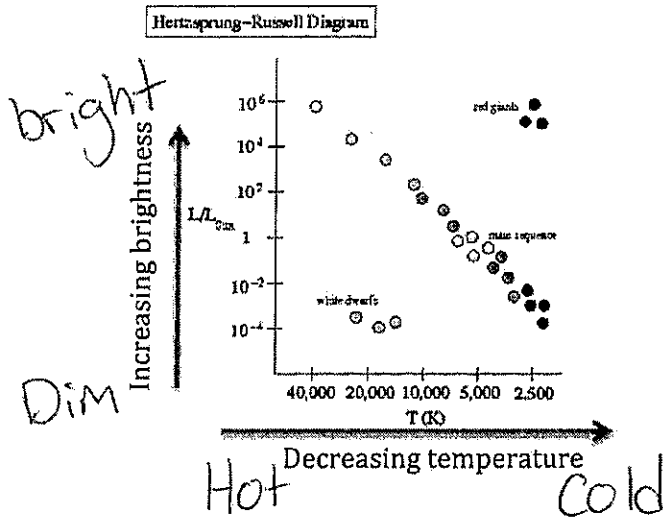
Sun centered

circular orbits

ellipse shaped orbit

2b) Which model has elliptical orbits? Which has circular orbits?

3) Practice reading this graph and answer questions 3 a-c.



Graph reading practice (label axis)

3a) What are the two things we are comparing in respect to different stars in this graph? (hint- the axis' of the graph) \_\_\_\_\_

Temp and brightness

3b) The "red giants" stars are hotter/colder (circle one) than white dwarfs.

3c) The "White Dwarf" stars are brighter/dimmer (circle one) than red giants.

4) What is triangulation? Using similar triangles to find distance to stars



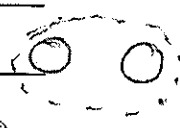
b) Triangulation is also known as: Parallax technique

c) Is it best to use a small, or a larger baseline to calculate distance to stars?

larger baseline = more accurate

5) The following technologies all provide information about celestial bodies in our solar system. Define each, and tell what information each one gives us.

a) light Telescope: Collects light to give info about celestial bodies

- b) Interferometry: Combining telescopes to increase resolving power. 
- c) Spectral Analysis: Using Spectroscopes to see spectral lines in light. Shows what elements are present
- 6) A Nebula is the area where all new stars and planets are formed.
- 7) A Galaxy is a collection of stars, planets, and other celestial objects. Ex) Ours is the Milky Way.

8) Match up each speaker's question to what type of perspective they are showing.



"How much will it cost taxpayers to establish an outer space base?"

Monetary



"Who determines what resources we get on a moon base?"

Political



"Should humans test effects of zero gravity on animals?"

Ethical



"If we are going to use nuclear reactors on the moon base, how will we dispose of the waste?"

Environmental

Perspectives:

- Environmental
- Political
- Ethical
- Monetary

9) What are the three basic parts that all rockets have? \_\_\_\_\_

- 1) payload - what it's carrying
- 2) Tube - body
- 3) Combustible Material - fuel

10) Why does the Hubble Space Telescope produce clearer images than similar telescopes that are used on Earth? Space telescope. Doesn't have to look through dust of atmosphere.

11) Complete the following table about the Terrestrial and Jovian Planets.

Questions	Inner planets Mercury Venus Earth Mars	Outer planets Jupiter Saturn Uranus Neptune
Any natural satellites? (moons- how many?)	Few moons	Many moons
Density? (high or low) How tightly packed particles are	low	high
Solid or gas surface?	Solid	gas
Size? (small or large)	Small	large
Far or close to sun ←	Close	Far
Temperature? (cold, warm, or hot)	Warm/hot	Cold
Orbit time (in Earth days)	< or = Earth	> Earth

d) What large celestial object separates the terrestrial planets from the Jovians?

asteroid belt

12) What is the difference between a **revolution** and a **rotation** of a planet?

Revolution (year) → move around sun  
Rotation (day) → spin on its axis

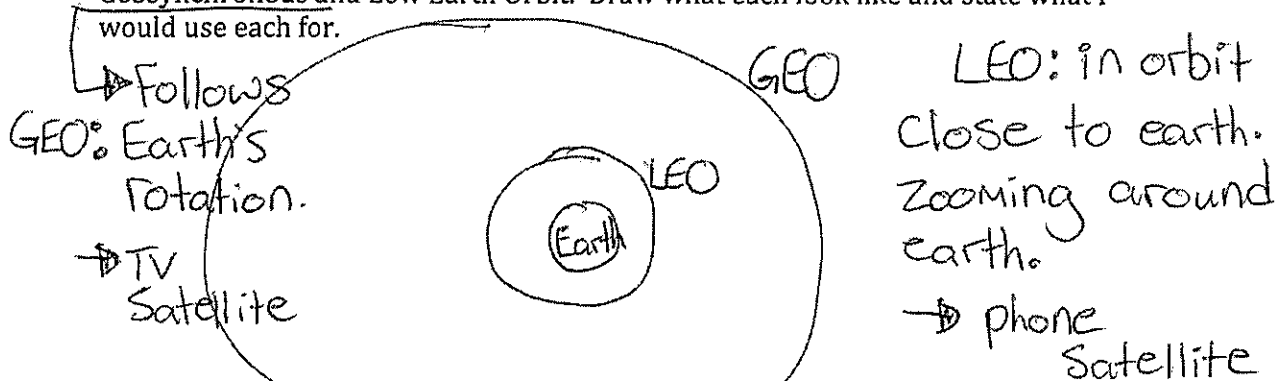
13) On April 8, 2014, Mars was visible to the unaided eye on Earth. Is Mars producing light that we can see on Earth? What is really happening?

Reflecting Sun's light. Sun is the only thing in our solar system giving off visible light.

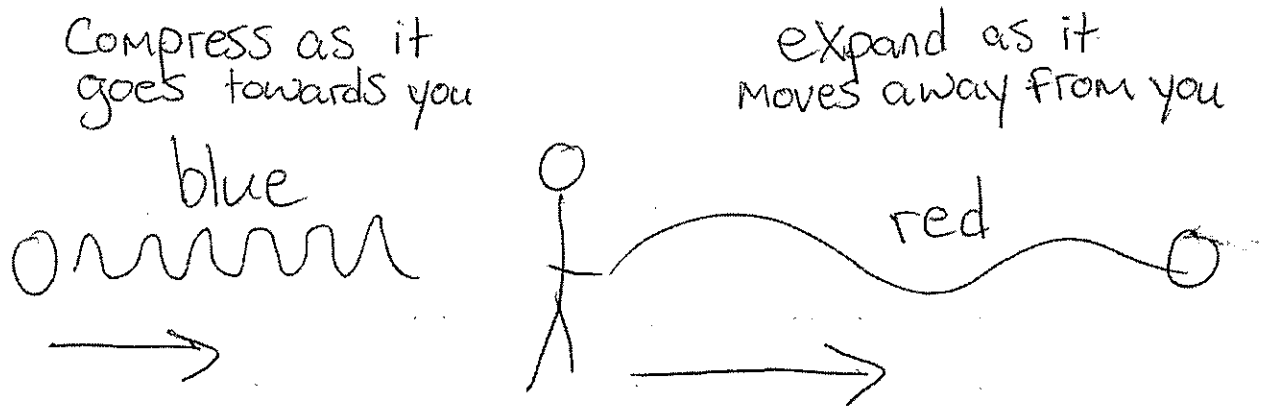
14) What is a staged rocket? Why do we use them to get to space?

Multiple compartments for fuel. Fall off when fuel is used. Makes shuttle lighter.

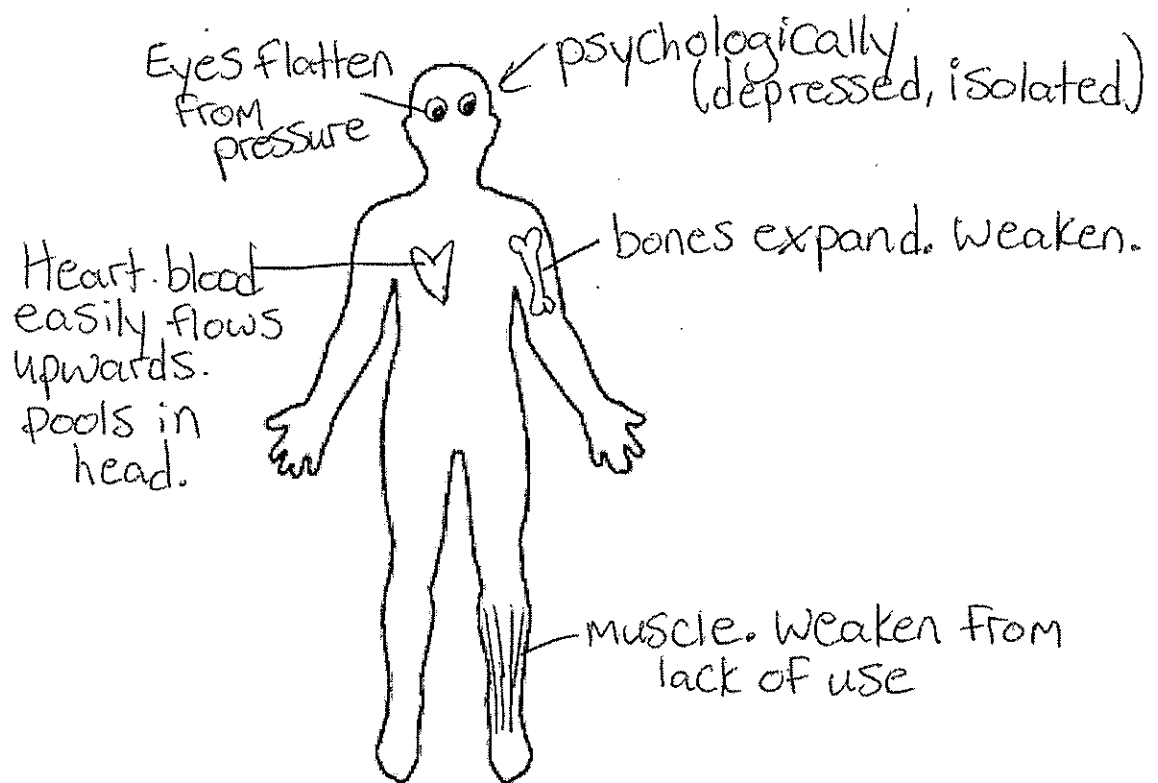
15) When we send things into space, there are two orbits that they can follow. Geosynchronous and Low Earth Orbit. Draw what each look like and state what I would use each for.



16) Draw out what is happening during the Doppler Effect. When would we see a star as blue? When would we see it as red?



17) Go back and re-read your topic 8- how space affects the human body. Label some of the things space will do on the human below.



→ Remembering our Daily Chris Hadfield videos, how can humans survive for months on end on the International Space Station (ISS).

a) What do they eat? How is it different than earth food?

lots of dried food. Less water weight.

b) What do they drink? How is water recycled?

Every peice of moisture is collected and recycled and reused. Including H<sub>2</sub>O in urine.