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Section Number: 102-009

(Do this between class)
(Take notes)!! (ab)

1.1.1

1.1.1 Speed of light = $3.00 \times 10^{10} \frac{\text{cm}}{\text{s}} \times \frac{1 \text{m}}{100 \text{cm}}$
 $3.00 \times 10^8 \frac{\text{m}}{\text{s}} \times \frac{1 \text{km}}{1000 \text{m}} = 3.00 \times 10^5 \frac{\text{km}}{\text{s}}$
 $d = c \times \text{day}$
365 days a year So $3.00 \times 10^5 \times 365.25 = d$
 109575000 km/day

1.1.2

From 1.1.1, 1 year = 365.25 days in a year
24 hours in a day
~~60 hours in a min~~ 60 minutes
60 minutes in 1 hour
 $365.25 \times 24 \times 60 = 525960$
 $525960 \times (3 \times 10^5)$

1.2

157788×10^6

1.2.1 South Celestial Pole is one ^(off top) point where the Earth's axis intersects the Celestial Sphere
This point can be seen in the Southern Hemisphere

1.2.2 Zenith means straight up head. To see Poles at that point, you must go as North as possible North Pole

1.3.1 ~~The sun~~

The Sun shines over the Meridian in the Northern Hemisphere at 12 pm (noon)

1.3.2

The big dipper moves like a clock but counter clockwise
At 6 AM the handle points up since it was pointing down at 6 PM

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1.4.1 - either equinox

1.4.2 - One of the Solstices / either Solstice

1.5.1 - $1^\circ = 3600$ arcseconds, $5^\circ = 1800$

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1.5.2

$$2 \text{ radians} = \frac{360^\circ}{\pi} = 114.649681 \times 3600 = 417738.85$$

$$\text{Size} = \frac{(\text{angle})(\text{distance})}{206265} \quad \text{distance} = \frac{\text{Size} \times 206265}{\text{angle}}$$

$$\text{distance} = \frac{(2 \times 10^4) \times 206265}{417738.85}$$

9994.94

light year

1.5.3

$$\text{Size} = \frac{(\text{angle})(\text{distance})}{206265}$$

a

$$\text{angle} = \frac{\text{distance} \times 206265}{\text{Size}}$$

$$\frac{(10^7)(206265)}{(2 \times 10^4)}$$

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