

O5. (10 points)

Solution:

$$F * \tan(\text{FOV}/2) = f * \tan(45^\circ/2)$$

$$F = 700\text{mm}, f = 26\text{mm}$$

$$\text{FOV}/2 = \text{Arctan}(0.414 * f/F) = 0.881^\circ$$

$$\text{FOV} = 2 * 0.881^\circ = 1.76^\circ \approx 1.8^\circ$$

10 points for $1.6^\circ \sim 1.9^\circ$, 5 points for $1.3^\circ \sim 1.5^\circ$ and $2.0^\circ \sim 2.2^\circ$

O6. (40 points)

Solution:

2 planets: Saturn, Jupiter.

2 Messier object: M15, M74.

1 equatorial coordinate: $+30^\circ 21\text{h}$.

8 points for each text.