

12/1/15

Why do we use a telescope?

- We use a telescope to magnify images

- test question {
- magnification
 - resolution
 - light gathering ability

Light gathering power

$$LGP = \frac{\pi (\text{diameter of objective})^2}{4}$$

• A 10 inch telescope has how much more Light gathering ability than a 5 inch telescope?

$$5^2 = 25$$

$$10^2 = 100$$

> 4 times more

• If its twice the size, it is 4 times greater.

• If it is 3 times the size, it is 9 times greater

Resolving Power (RP)

- ability to make us see really small details and see sharp images.
- objects that appear close together in the sky will blur together into a single blob.
- increase RP - stars will separate from each other.

magnification is not important in a telescope.

Magnifying Power (MP)

$$MP = \frac{\text{Focal length of objective (FO)}}{\text{Focal length of eyepiece (FE)}}$$