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TELESCOPES IN LOW VISION

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Abstract: *This paper describes about Galilean and Keplerian Telescopes in Low vision*

Keywords: *Galilean Telescope, Keplerian Telescope, Low vision*

INTRODUCTION:

There are different types of telescopes present. Among them, Galilean Telescopes and Keplerian Telescopes are most important in low vision.

FORMULAS AND TRICKS:

A. M = - D oc / D obj Where D oc = ocular lens D obj = objective lens
B. Ocular lens power is greater compared to objective lens.
C. No +/- sign should be used when magnification is denoted.
D. Objective lens is always in Positive form.
E. Ocular lens can be in Positive or Negative form.
F. If ultimate result is in negative (-) form, then it will be considered as Keplerian Telescope
G. If ultimate result is in positive (+) form, then it will be considered as Galilean Telescope

EXAMPLES:

1. Suppose,
Objective lens = +20.00 Ds
Ocular lens = -60.00 Ds
What will be the magnification and type of Telescope??

Solution:

i. M = - D oc/ D obj -(- 60.00 / +20.00) = 3x So, magnification is 3x
ii. Here, ocular lens is negative and ultimate result is positive. So, it is considered as Galilean Telescope

2. Suppose,
Objective lens = +20.00 Ds
Ocular lens = + 60.00 Ds
What will be the magnification and type of Telescope?? What is the tubelength of the Telescope??

Solution:

- M = - D oc/ D obj -(+60.00 Ds / +20.00 Ds) = 3x So, magnification is 3x
- Here, ocular lens is in plus form and ultimate result is in negative form. So, it is considered as Keplerian Telescope.
- Tubelength is denoted as "d" d = f obj + f oc =1/20 + (1/60) = 5 + 1.33 = 6.33 cm So, Tube length is 6.33 cm

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