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Name (Last, first)

## Astronomy 110 Homework 6: Speed of Light

Write the answers to the questions on this sheet.  
Homework due by 11.20 am March 4<sup>th</sup> 2005

Scientists very often make approximate calculations to get a rough idea of how something happens. If necessary they will do an accurate calculation later. This homework is an exercise in doing rough calculations, and in getting a feel for the velocity of light. Show your working.

For questions 1-4 estimate **approximately** how long it takes light to travel the given distances:

*Answers need only be accurate to about 20%. Either make your own estimates of the distances or look them up.*

- *Remember that the speed of light (in a vacuum) is  $3 \times 10^8$  meters per second, or 300,000 kilometers per second.*
- *Remember that  $time = distance/speed$*

1. From your toes to your eyes

2. From the instructor at the front of classroom Watanabe 112 to the students in the back row.

3. From Hawaii to California

4. From Saturn to the Earth.