

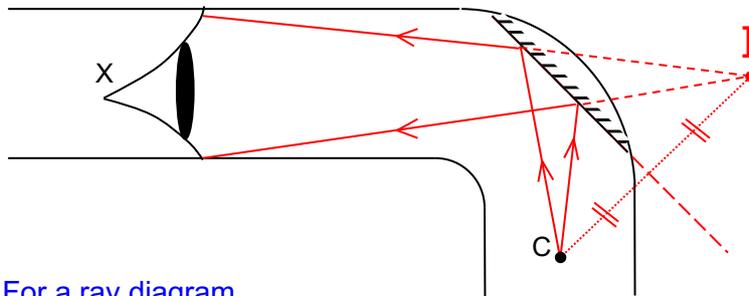


## 2023 Sec 3 Physics Assignment 02 (Answers)

### Reflection

Name: \_\_\_\_\_ ( ) Class: 3/ \_\_\_ Date: \_\_\_\_\_

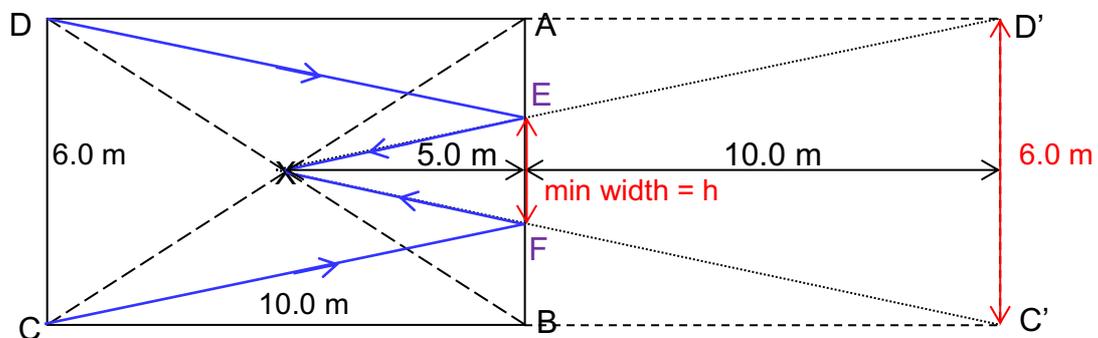
1



**Note:** For a ray diagram

1. Use pencil & ruler
2. Show arrows on every light ray
3. Draw accurate construction lines with dashed lines
4. Use protractor/set square to ensure right angles!

2



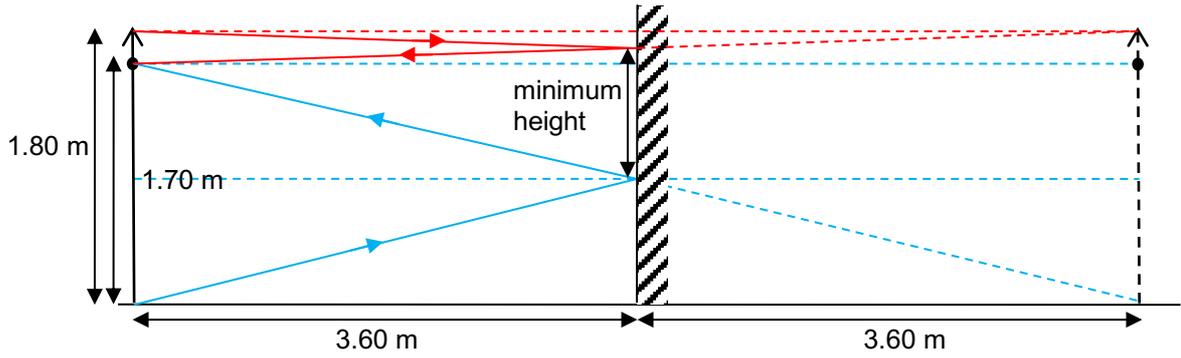
Using similar triangles XEF and XD'C'

$$h / 6.0 \text{ m} = 5.0 \text{ m} / (5.0 \text{ m} + 10.0 \text{ m})$$

$$h = 30 \text{ m} / 15 = 2.0 \text{ m} \text{ (2 s.f.)}$$

minimum width of mirror = 2.0 m

3



- (b) distance =  $2 \times 3.60 \text{ m} = \underline{7.20 \text{ m}}$
- (c) height =  $\underline{1.80 \text{ m}}$
- (d) minimum height of mirror =  $\frac{1}{2} \times 1.80 \text{ m} = \underline{0.90 \text{ m}}$
- (e) height of mirror above the floor =  $\frac{1}{2} \times 1.70 \text{ m} = \underline{0.85 \text{ m}}$

**Note:** Show all calculation steps with units!

Also refer simulation at <https://www.geogebra.org/m/pCTXpz7S>

4

