

CfE Science

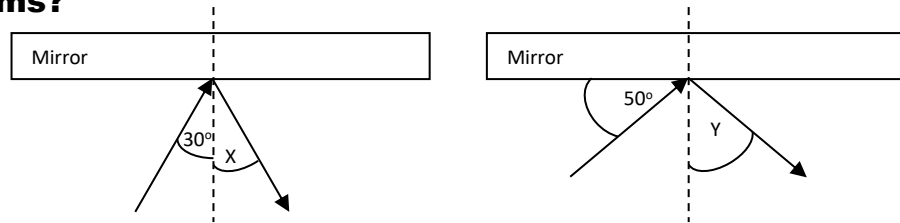
Light Homework Booklet

Please answer all questions in your jotter

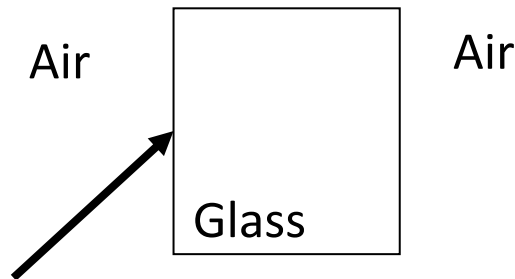
Draw any ray diagrams with a ruler

Light Homework 1

- 1** What is the size of angle X and angle Y in the following diagrams? **2**



- 2** What is the name of the dashed line that all angles are measured from? **1**
- 3** What is the Physics name used for the “bending” of light? **1**
- 4** Why does light change direction when it moves from air into glass? **1**
- 5** Copy and complete the diagram below to show how light travels from air into glass and back into air again.



- 6** A pupil directs 3 beams of light, in separate experiments, at the prisms below. **2**



- a)** Copy and complete the diagrams above to show what happens to the light as it goes through each lens. **2**
- b)** Under each lens write down the type of lens shown. **2**
- c)** Describe what would happen to the rays if the lenses above were made thicker. **2**
- 7** In your jotter, list 2 different pieces of equipment which use lenses. **2**

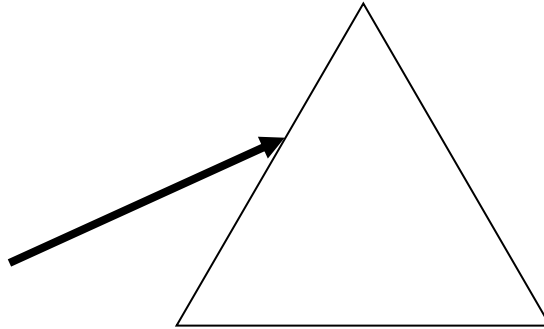
Total 15

Light Homework 2

**1 Copy and complete the following sentence:
“When white light is directed through a triangular prism
_____ light is refracted the least and _____ light is
refracted the most.”** **2**

2 Why are different colours refracted by different amounts? **1**

**3 Copy and complete the triangular prism below to show how
light travels from air into glass and back into air again.**

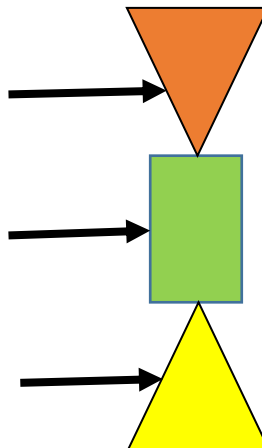


**4 As white light passes through a triangular prism, the light is
split up into different colours.** **2**

Write down, in order, the colours of light starting at red. **1**

**5 Give one example, from the natural world, where white light
is split up into the different colours.** **1**

**6 a) Copy and complete the diagram below to show how
the light passes through each of the blocks.**



b) What lens are the three blocks acting as? **2**

Total 10

Light Homework 3

1. **What are the three primary colours of light?** **1**

2. **What colour of light do you get when you mix:**
 - a) Red and blue light
 - b) Red and green light
 - c) Green and blue light?**3**

3. **What colour of light do you see if you pass white light through a blue filter then a red filter?**
Explain your answer in words or with a diagram. **2**

4. **Which colours of light will be transmitted when red and blue light are passed through a magenta and a yellow filter.** **1**

5. **White light is reflected from a cyan surface. What colour(s) of light are reflected?** **1**

6. **Why is too much exposure to ultra violet radiation dangerous?**
Explain how the effect of this can be reduced. **1**

7. **State one use of Infrared radiation in medicine.** **1**

Total 10

