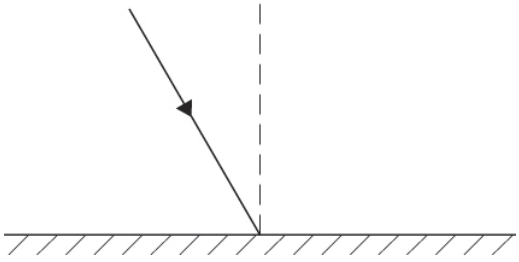
Name _____ **Class** _____ **Date** _____

1 A woman is reading a book. Draw a light ray on the drawing to show how she sees the book. Draw arrows on your light ray to show the direction the light is travelling.

(Total for Question 1 = 1 mark)

2 (a) The diagram below shows a plane mirror and a ray of light hitting the mirror. Complete the diagram by drawing the reflected ray on the diagram.



(1)

(b) Describe the difference between specular reflection and diffuse reflection.

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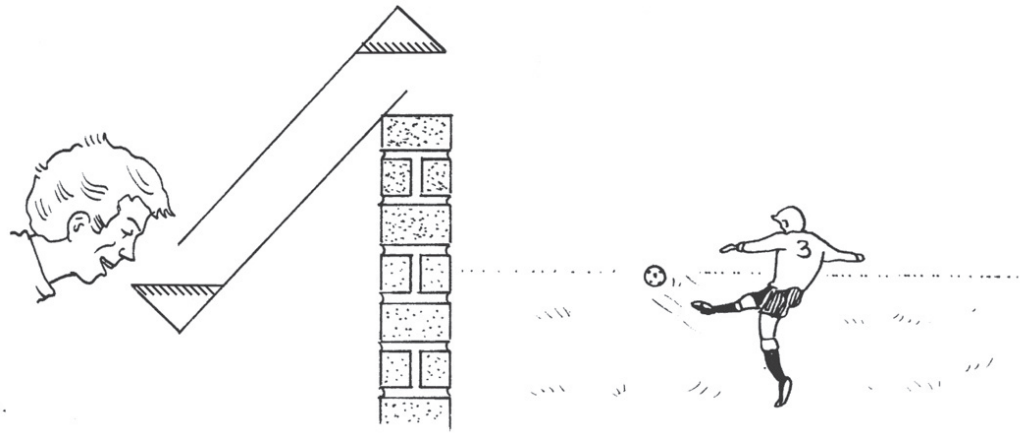
(2)

(c) Two plane mirrors can be used in a piece of equipment called a periscope.

Draw a ray of light on the diagram to show how the person using the periscope can see the ball.

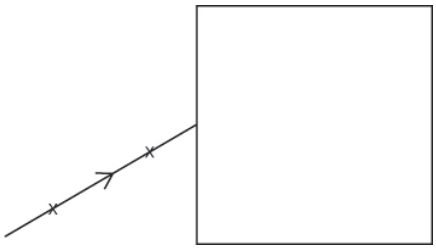


(2)

(Total for Question 2 = 5 marks)

3 A student shines a ray of light towards a glass block. She draws a cross at two points along the ray and then uses the crosses to help her draw a straight line showing the ray of light.

The diagram shows what she did.



(a) Give **one** reason why the student used the crosses to mark the ray of light, instead of drawing along the ray.

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(1)

(b) As the ray of light goes into the glass block and out of the glass block, the ray changes direction.

Complete the ray of light on the diagram above to show what happens when the light goes **into** the glass block and comes **out of** the glass block.

(2)

(Total for Question 3 = 3 marks)

4 Describe the functions of **three** different parts of the eye.

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(Total for Question 4 = 3 marks)

5 The primary colours of light are red, green and blue.

(a) Why do we call these the primary colours? Tick **one** box.

☐ **A** These are the first colours we see.

☐ **B** These are the brightest colours.

☐ **C** The cones in our retinas detect these three colours.

☐ **D** These are the best colours to give small children.

(1)

(b) Name **one** secondary colour of light and the **two** primary colours that make it. Tick **one** box.

☐ **A** Cyan is made from blue and green.

☐ **B** Green is made from yellow and blue.

☐ **C** Magenta is made from red and green.

☐ **D** Red is made from yellow and cyan.

(1)

(Total for Question 5 = 2 marks)

6 A student puts a red filter in a beam of white light.

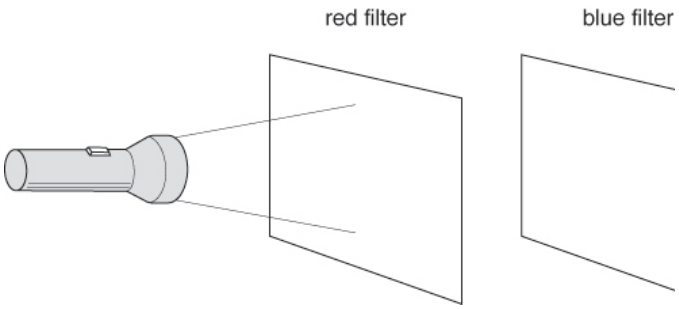
(a) What happens to the light that hits the filter? Tick **one** box.

- ☐ **A** Red light is transmitted and all the other colours are absorbed.
- ☐ **B** Red light is absorbed and all the other colours are transmitted.
- ☐ **C** White light is transmitted and red light is absorbed.
- ☐ **D** Red light is reflected and all the other colours are absorbed.

(1)

(b) The student puts a blue filter next to the red filter.

Explain what will happen.



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(2)

(Total for Question 6 = 3 marks)

7 A performer on a stage has a red and white costume. White light shines on the performer.

(a) (i) Why does the white part of the costume look white? Tick **one** box.

☐ **A** The white parts reflect white and absorb all the other colours.

☐ **B** The white parts only reflect white light.

☐ **C** The white parts only absorb white light.

☐ **D** The white parts reflect all the colours in white light.

(1)

(ii) Give **one** reason why the red part of the costume looks red.

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_____

(1)

(b) The performer stands next to a blue box. A red spotlight shines on the performer and the box. Explain what colours the white and blue things will look in the red light.

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(4)

(Total for Question 7 = 6 marks)

8 A student is looking at a photograph on a computer screen. He also has a print of the photograph on his desk. The lamp in the room is producing white light.

The lamp in the room has a lamp shade that makes the light coloured.

Explain why the printed photograph will seem to change colour more than the photo on the computer screen.

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(Total for Question 8 = 2 marks)