

8K Light...mark scheme

Assessment for learning...year 8 (level 3-6)

Question 1:

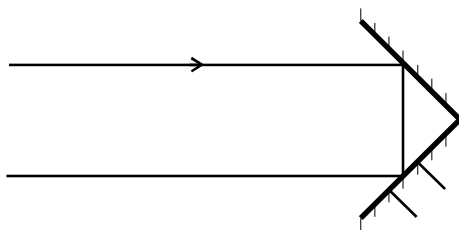
- (a) (i) red 1
do not accept 'pink' or 'pinky red'
- (ii) red 1
accept 'dark red'
- (b) (i) black 1
do not accept 'green' or 'brown' or 'brownish black'
or 'dark colour'
- (ii) any **one** from 1
- red ink absorbs green light
 - red ink only reflects red light
 - no green light is reflected from the ink
- accept 'no light is reflected'*
accept 'there is no red light in green'
do not accept 'there is no red in green'

[4]

Question 2:

- (a) **answers should be straight lines which meet mirror 2 with tolerances indicated by the hatching behind the mirror**

(i)



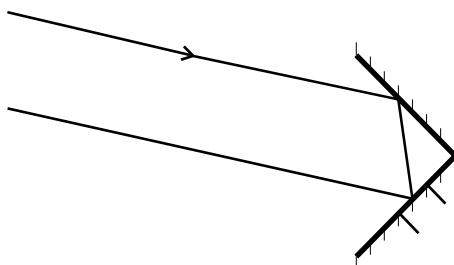
1

both rays required for the mark

reflections at surfaces of the mirrors positioned within the range shown with reflected ray parallel to incident ray

disregard any arrows

(ii)



1

both rays required for the mark

reflections at surfaces of the mirrors positioned within the range shown with reflected ray parallel to incident ray

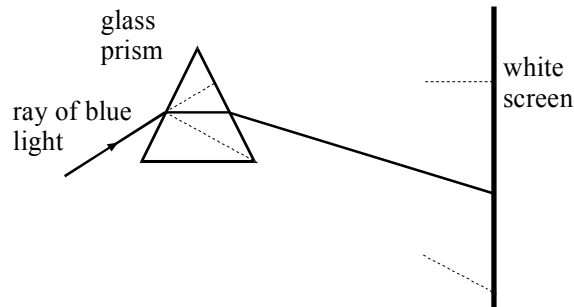
disregard any arrows

- (b) (i) parallel to the incident ray **or** back towards the source
accept 'back the same way'
accept correctly drawn rays on the diagram
*do **not** accept 'reflected back **or** upwards **or** to the left'* 1
- (ii) light is reflected back towards car **or** driver **or** headlights 1
- (iii) light would probably not be reflected back towards car **or** driver
*accept 'light is reflected in a different direction **or** away'*
*do **not** accept 'it would dazzle the driver'* 1

[5]

Question 3:

- (a) one mark is for a ray which bends to the right when it enters the prism
the ray must be within the limits shown 1



- one mark is for a ray which bends downwards when it leaves the prism
the ray must be within the limits shown 1
award no marks if the lines are not straight

- (b) (i) a spectrum 1
accept 'all the colours' or 'the colours of the rainbow'
do not accept 'a rainbow' or 'colours'

- (ii) a red spot or a red line 1
accept 'red light' or 'red' or 'all the colours except red would disappear'
do not accept 'a red screen'

- (iii) it absorbs or stops all the other colours 1
accept 'it only lets red light pass'
do not accept 'it lets red light pass'

[5]

Question 4:

- (a) (i) 16 m 1
unit required for the mark

- (ii) 32 1
consequential marking applies
accept answer to(a)(i) $\div 0.5$

- (b) 0.0064 1
accept '6.4 mm' or '0.64 cm'
consequential marking applies

*accept answer to (a)(ii) ×
0.0002 s*

- (c) it is scattered from the car **or** the road **or** the lines 1

*accept 'it is reflected' **or** 'it
bounces off'*

[4]

Question 5:

- (a) point E 1

if more than one box is ticked award no mark

- (b) continuous ray from point to eye 1

*accept a ray coming either from point E
or from the answer to (a)*

- straight lines to the mirrors at appropriate angles 1

*reflections must be at the surfaces of the mirrors
and lines must **not** extend behind the mirrors*

*the angle between the incident and the reflected
rays should be approximately 90°*

*this mark may be awarded even if the reflection
from the second mirror to the eye is **not** given*

- arrow anywhere along ray pointing from tree to eye 1

- (c) any **one** from 1

- move bottom of periscope towards wall

*accept 'tilt it' **or** 'change the angle'*

- make it upright

- lift it higher

*accept 'move it up' **or** 'push periscope further
over the wall'*

*accept 'change angle of top mirror' **or** 'change
angle of mirrors*

*do **not** accept 'move it'*

[5]