Paper Reference(s) 1AS0/02
Pearson Edexcel Level 1/Level 2 GCSE (9–1)

Astronomy
Paper 2: Telescopic Astronomy

Monday 8 June 2020 – Afternoon

Diagram Booklet

In the boxes below, write your name, centre number and candidate number.

Surname					
Other names					
Centre Number					
Candidate Number					

INSTRUCTIONS

There may be spare copies of some diagrams in case you need them.

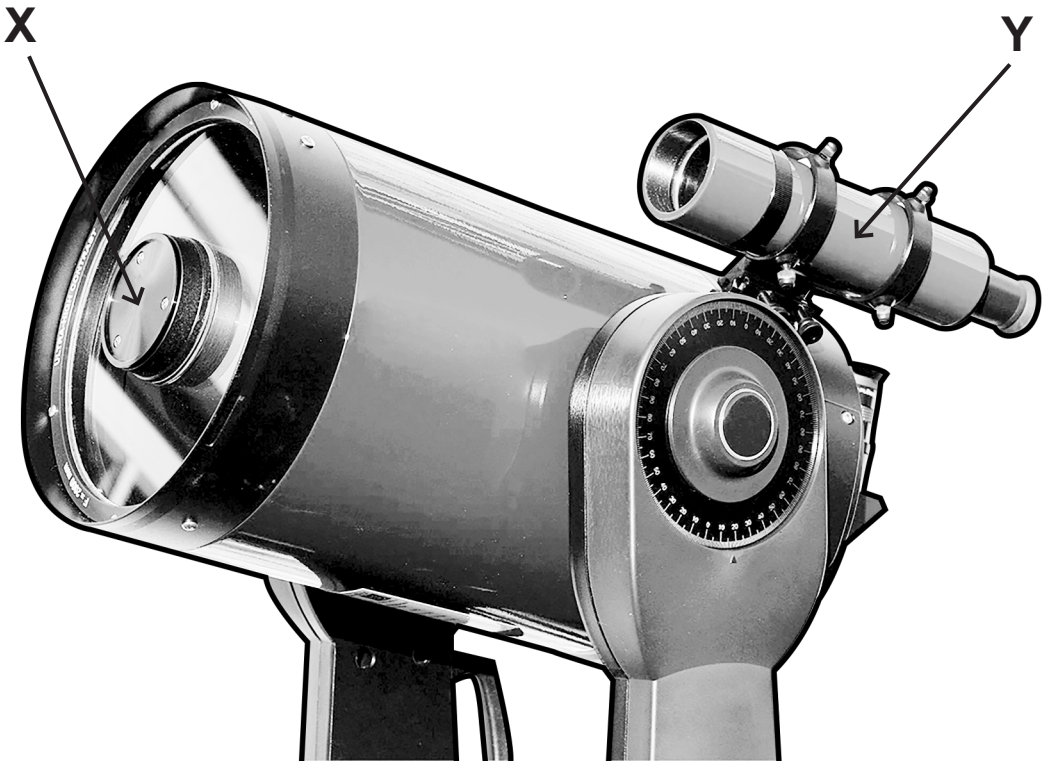
THIS DIAGRAM BOOKLET MUST BE RETURNED WITH THE QUESTION PAPER AT THE END OF THE EXAMINATION.

Contents

Page

Question 3(a) and 3(b)

Figure 1

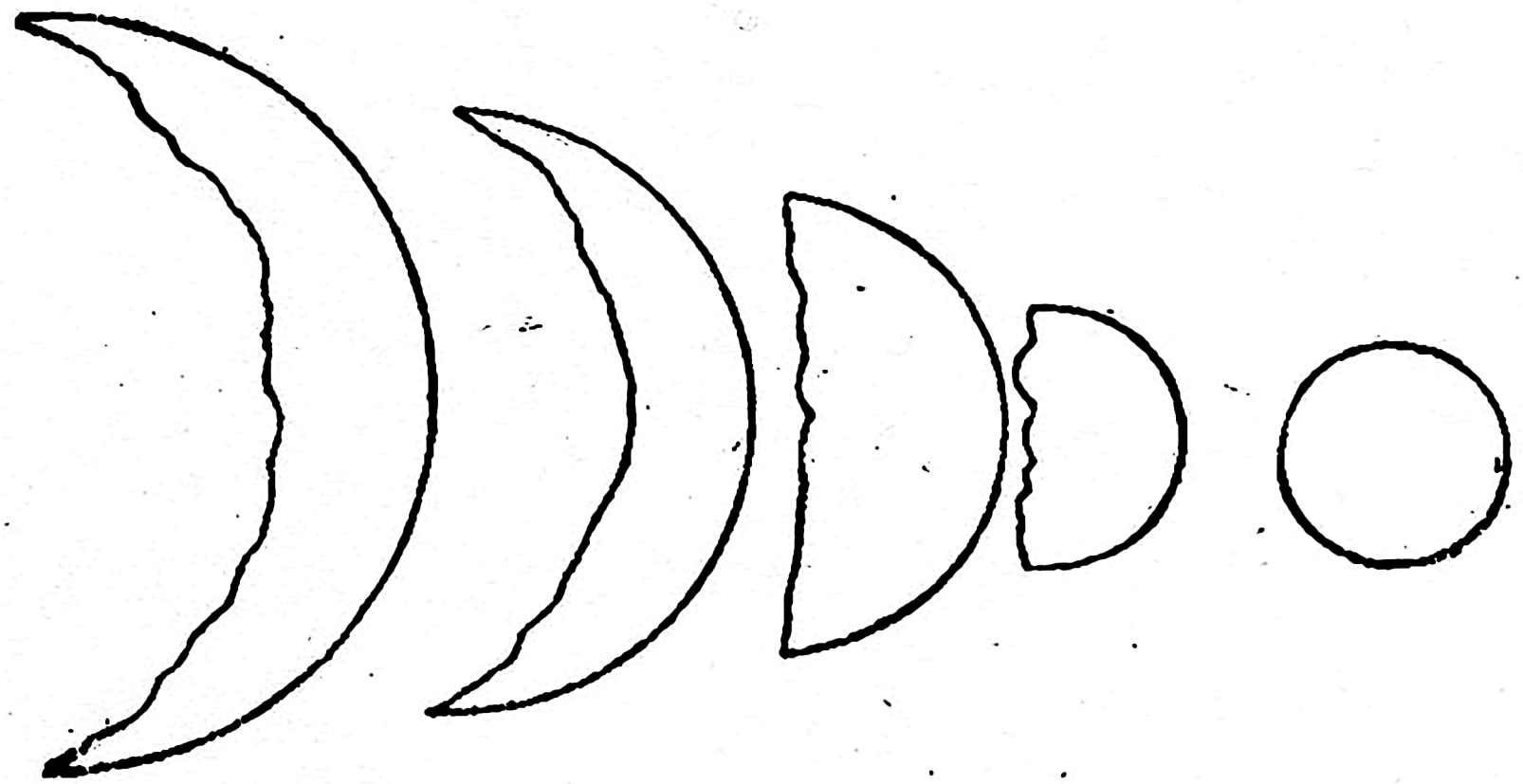


Question 3(c)

Figure 2

Question 4(a)

Figure 3



Question 4(b)

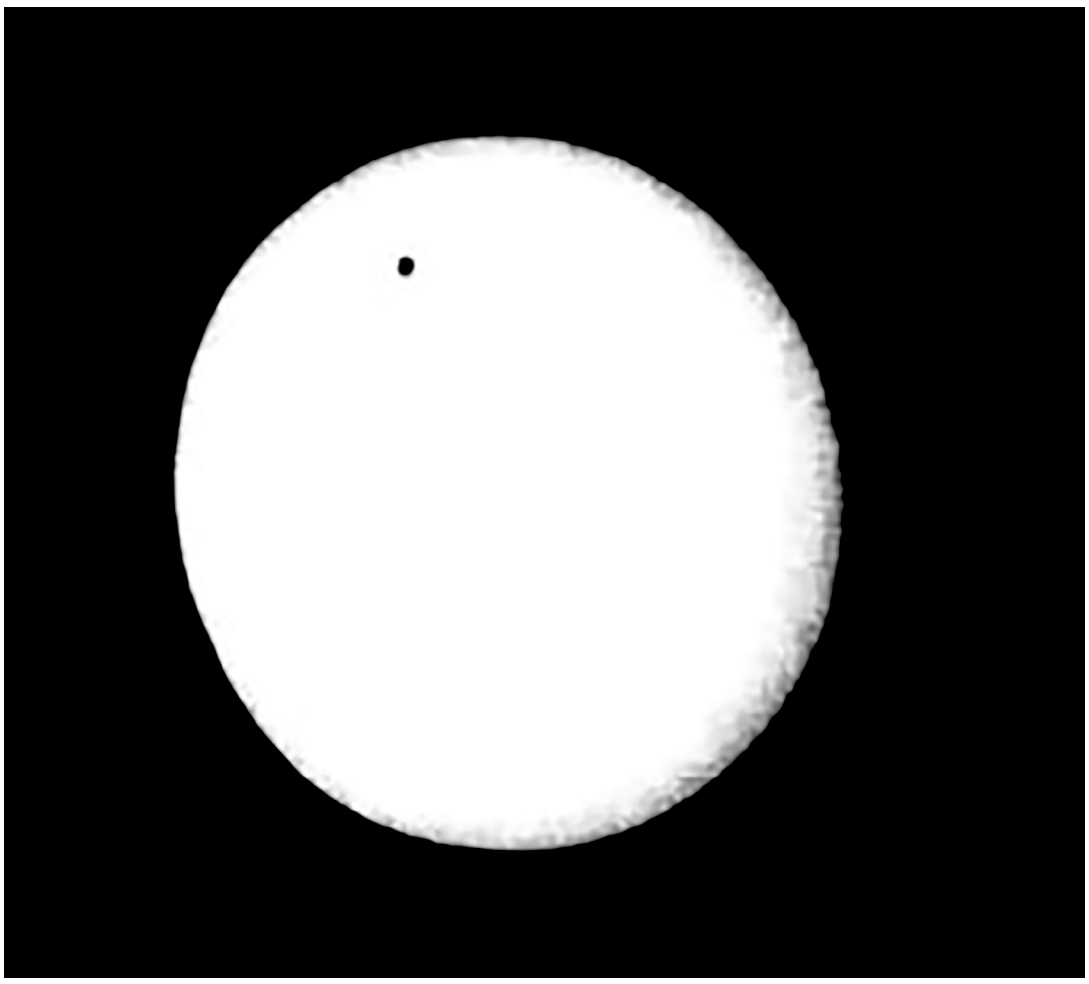
Figure 4

Phase of Venus	Angular diameter (^{o})
Full	0·0026 – 0·0027
Crescent	0·016 – 0·018

Observing instrument	Angular resolution (^{o})
Average human eye	0·017
Early Galilean telescope	0·0006

Question 4(c)

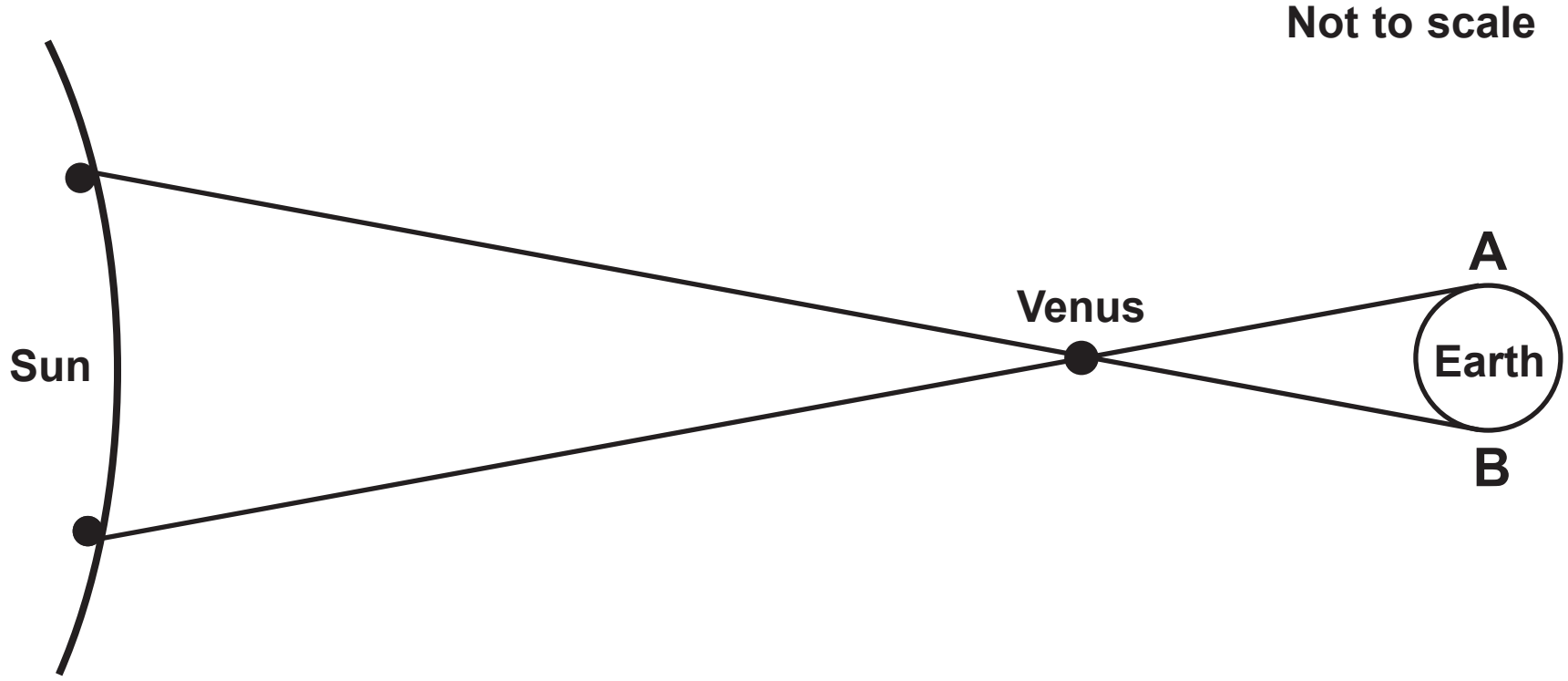
Figure 5



Question 4(d)

Figure 6

Not to scale



Question 5(b)

Figure 7

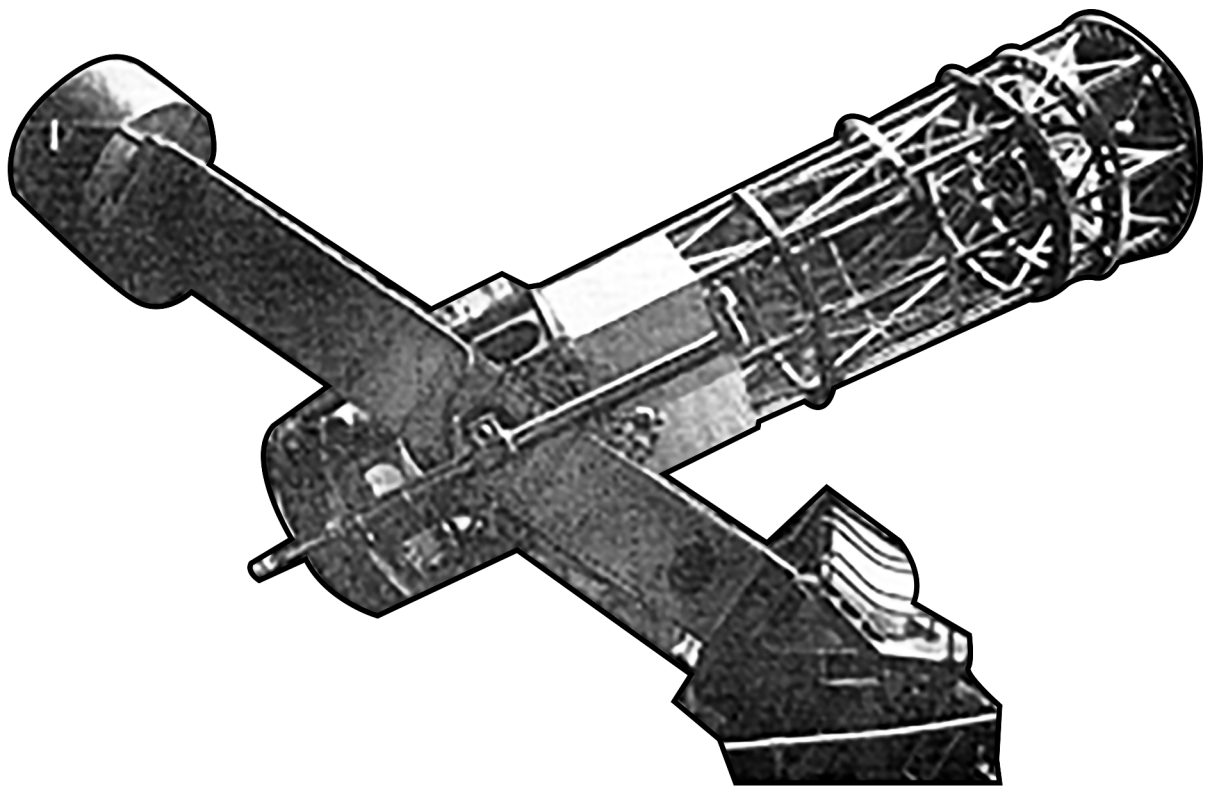
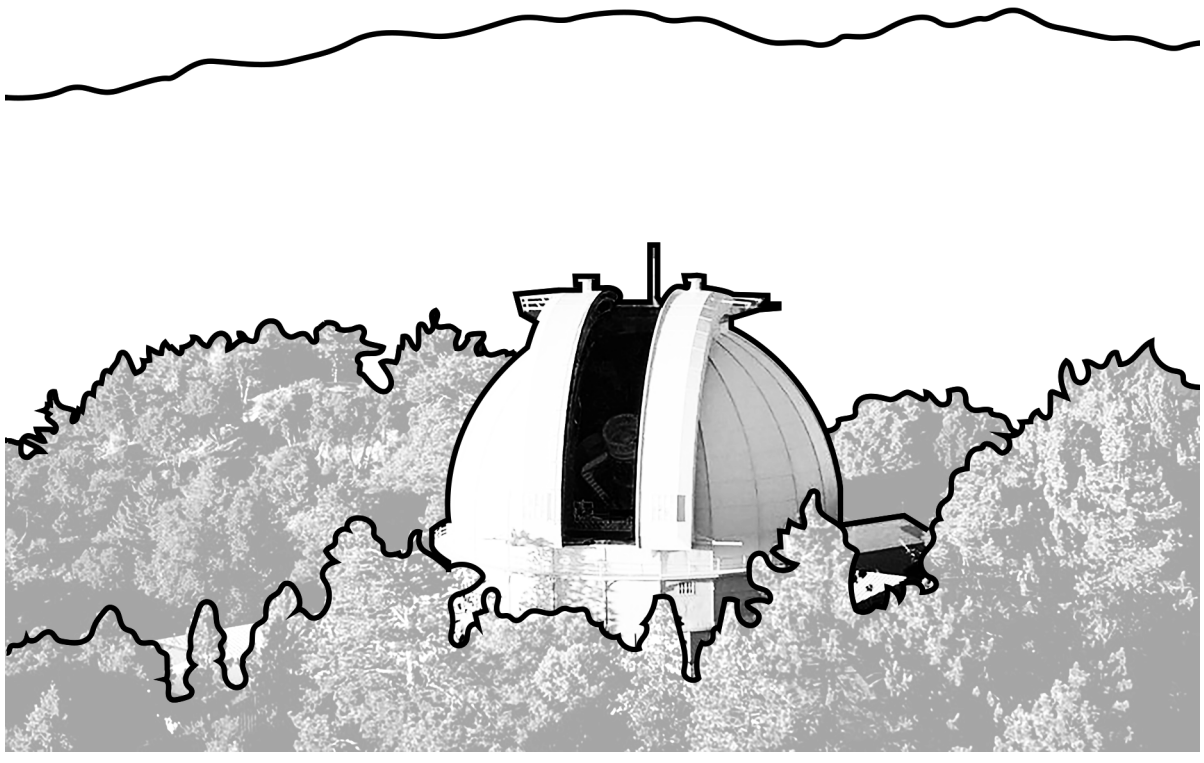


Figure 8

Aperture	**2·5 m**
Focal length	**53 m**
Magnification	**2000 ×**

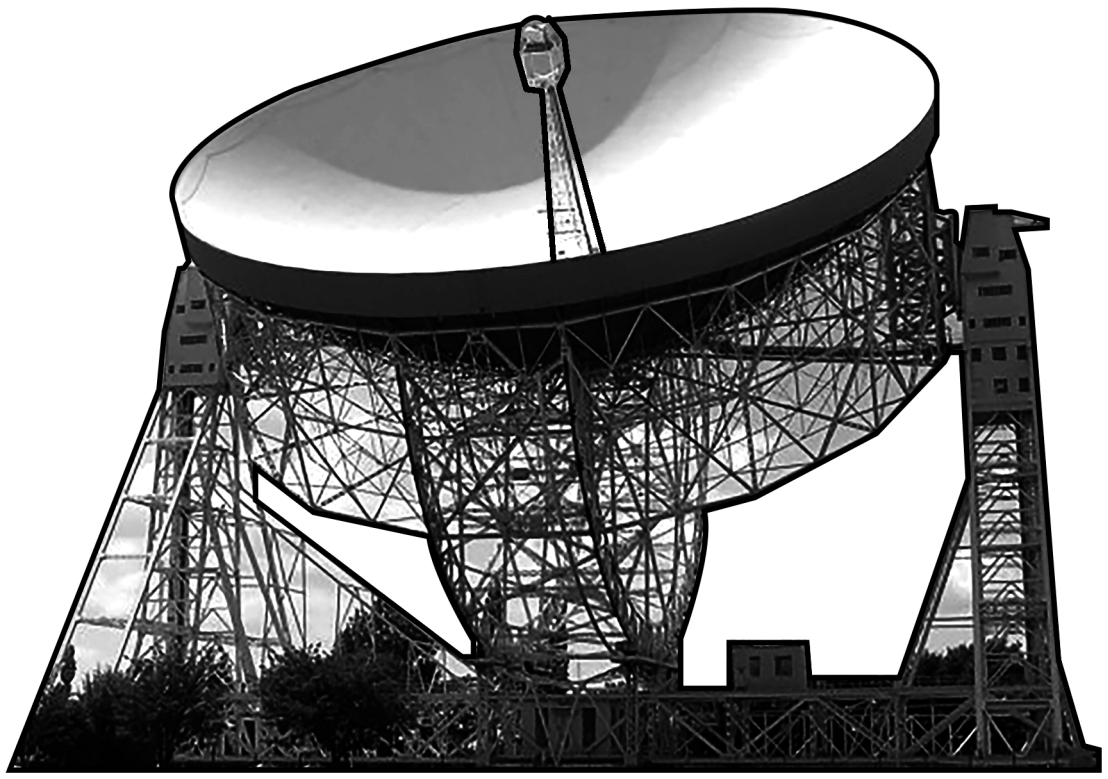
Question 5(d)

Figure 9



Question 6(a) and 6(b)

Figure 10



Question 6(c)

Figure 11

Question 7(b)

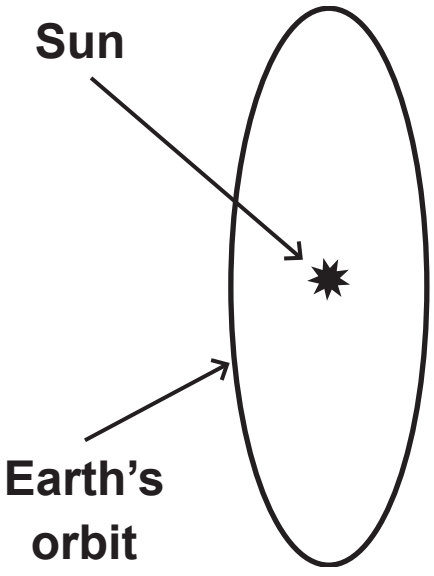
Figure 12

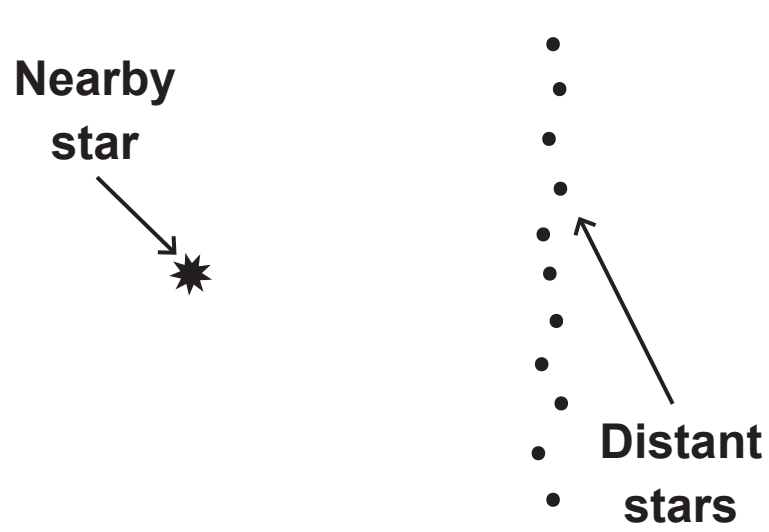
Star	Apparent magnitude	Absolute magnitude	Spectral class	Mass (Sun = 1)
A	6·2	–4·1	B1	10
B	2·4	9·2	K5	0·6
C	–4·7	4·8	G2	1·0
D	–1·9	7·4	K6	0·8
E	0·2	11	B2	0·5

Question 7(c)

Figure 13

Not to scale





Question 8(a)

Figure 14

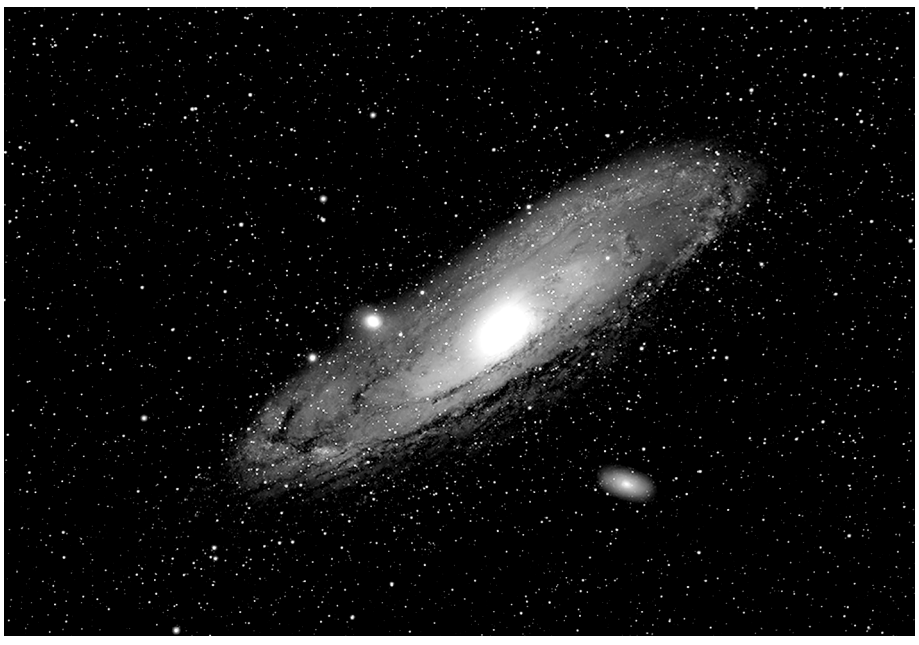
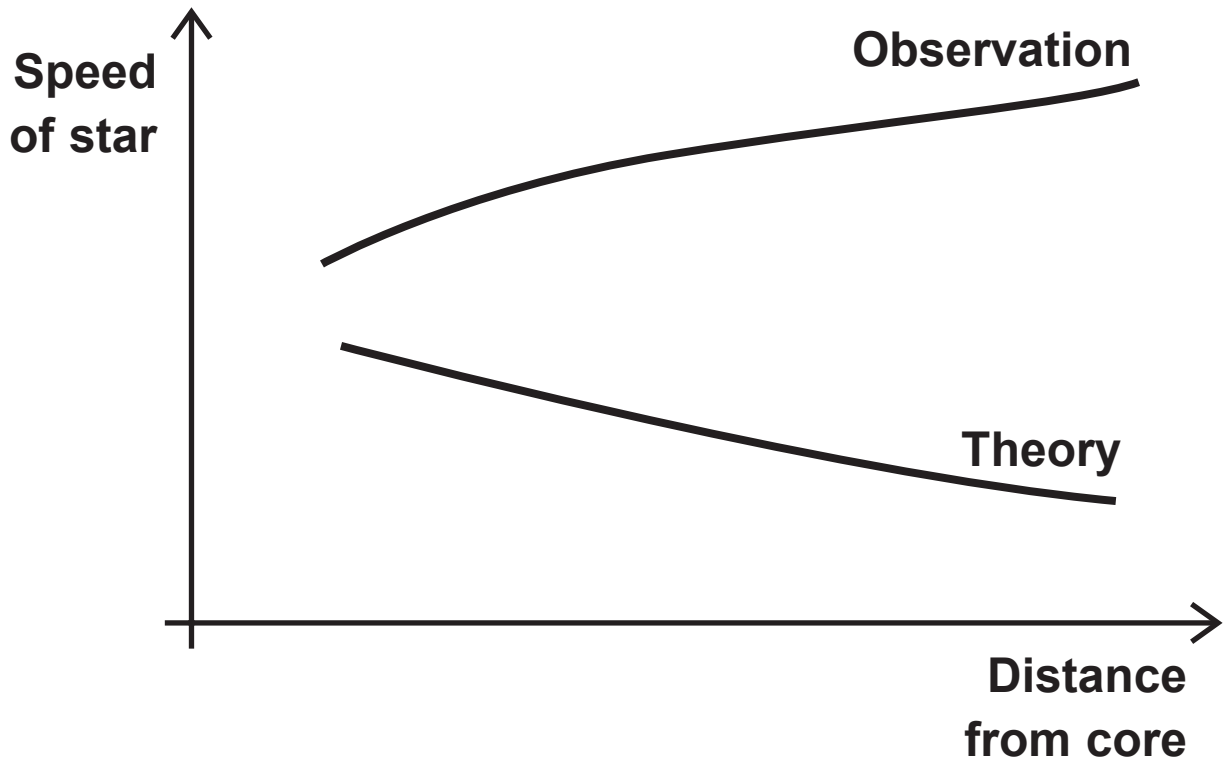


Figure 15



Question 8(d)

Figure 16

	Observed wavelength of spectral line (nm)
Galaxy A	480·0
Galaxy B	399·6

Question 9

Figure 17

Question 9

Figure 18

	Star name	Estimated magnitude	Actual magnitude	Difference
α	Betelgeuse	0·8	0·42	+0·38
β	Rigel	0·5	0·18	+0·32
γ	Bellatrix	1·0	1·64	–0·64
δ	Mintaka	1·3	2·20	–0·90
ε	Alnilam	1·1	1·69	–0·59
ζ	Alnitak	1·1	1·88	–0·78
κ	Saiph	1·1	2·07	–0·97
λ	Meissa	1·6	3·47	–1·87
ι	Hatsya	1·5	2·77	–1·27

Question 4(c)
Image: Karen Fisher

Question 5(b)
Image: Mount Wilson Observatory

Question 5(d)
Image: Mount Wilson Observatory

Question 6(a) and 6(b)
Image: University of Manchester

Question 8(a)
Image: PavelSmilyk/Getty Images