

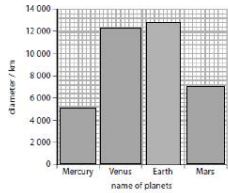
Name of the Student: _____

Max. Marks : 17 Marks

Time : 17 Minutes

Mark Schemes

Q1.

	Answer	Acceptable answers	Mark
(a)(i)	Milky Way	Accept any spelling	(1)
(a)(ii)	☒ D white dwarf		(1)
(b)(i)	 Mercury 4 900 km Venus 12 100 km Mars 6 800 km Three correct (2) One or two correct (1) + or – one square Judge by eye		(2)
(b)(ii)	Correct information from table 1.52 (1) Conversion to kilometres $(1.52) \times 150\,000\,000$ (1)	Seen anywhere in the answer Incorrect information shown to be used correctly (1) Correct answer, no working scores full marks $228\,000\,000 / 2.28 \times 10^8$ (km) 228 to any power of 10, allow 1 mark if no other mark awarded. $225\,000\,000 / 2.25 \times 10^8$ (km), allow max 1 mark if no working shown.	(2)

		Indicative Content	Mark
QWC	*(c)	A description including some of the following points In Solar System • Use of telescopes	(6)

		• Search for evidence of conditions needed for life e.g. water/oxygen/bacteria on other planets • Manned missions (to the Moon) • Unmanned missions/probes to other planets e.g. Mars, Jupiter, Saturn, Mercury • Landers / robots / rovers sample soil • Information transmitted back to Earth Throughout the Universe • Search for extra-terrestrial intelligence (SETI) • Use radio telescopes • Search for (regular pattern of) radio signals • Search for other planetary systems • Discovery of other planetary systems (capable of supporting life) • Broadcasting signals/ sending out messages (to extra terrestrial intelligences)	
Level	0	No rewardable content	
1	1 - 2	• A limited description giving a (named) way of searching for evidence e.g. SETI OR using telescopes OR send messages to space OR spacecraft • The answer communicates ideas using simple language and uses limited scientific terminology • Spelling, punctuation and grammar are used with limited accuracy	
2	3 - 4	• A simple description of any TWO of the searches for evidence e.g space probes go to other planets and telescopes are used OR radio telescopes and looking for radio waves from space.	

		• The answer communicates ideas showing some evidence of clarity and organisation and uses scientific terminology appropriately • Spelling, punctuation and grammar are used with some accuracy
3	5 - 6	• A detailed description of searches for evidence within AND outside the solar system e.g. Unmanned space probes go to other planets and radio telescopes search for radio signals from space. • The answer communicates ideas clearly and coherently uses a range of scientific terminology accurately • Spelling, punctuation and grammar are used with few errors

Question Number	Answer	Acceptable answers	Mark
(c)(i)	Correct plotting (1)	+/- ½ a small square if line is drawn exactly through the point accept for the mark even if point is not obvious	(1)

Question Number	Answer	Acceptable answers	Mark
(c)(ii)	Line of best fit drawn	straight line to be within lower two printed dots and upper 3 printed dots does not need to pass through origin ignore line below the given points	(1)

Question Number	Answer	Acceptable answers	Mark
(d)	A description including 1. expansion (of space) (1) and any one of 2. continuing (expansion) (1) 3. from very {hot/dense} start (1) 4. from a {point /small volume} (1) 5. origin of Universe (1)	ignore expansion of Earth, particles and other objects unqualified 'explosion' is insufficient, a reference to expansion is needed (this point only is dependent on first) singularity {Universe / Space} still expanding = 2 marks	(2)