

# B2.2. The Circulatory System Test - Answers

42

1	(a) Correctly labelled	[2]	
	(b) <u>Double circulation</u> ;	[1]	
	(c) Clockwise order Right ventricle; Pulmonary vein; Left atrium; Aorta;	[4]	7

			AVAILABLE MARKS
2.	(a) (i) A = aorta B = <b>renal artery</b> (need both) C = vena cava (need both)	[3]	
	(ii) up (vena cava or at C) arrow on or beside the vertical	[1]	
	(iii) D = lungs E = liver	[2]	
	(iv) atria/atrium; ventricles/ventricle	[2]	
	(b) (i) as lumen gets bigger so does flow rate or converse	[1]	
	(ii) capillaries	[1]	
	(iii) artery/aorta/named artery (except pulmonary artery)	[1]	
	(iv) valves	[1]	
	(c) Any <b>four</b> from: blockage/clot reduced blood flow/diameter of blood vessel decreases; less oxygen/glucose; less respiration; (brain) cells die	[4]	16

3	(a) Any <b>three</b> from: Luke's pulse before (is 10 bpm) lower than James or converse; Luke lower pulse rate after exercise (10 bpm) lower than James or converse; Luke recovery time quicker or converse for James Luke recovers 5 mins earlier; or converse for James;	[3]	
	(b) strengthened heart muscle/heart stronger/builds up <b>heart</b> muscle; increased volume of blood pumped per beat/heart becomes more efficient/ blood can get around in fewer beats/lower pulse rate heart attack less likely/CHD less likely	[2]	5

4.

(a) (i) Correctly labelled;	[1]
(ii) To prevent backflow of blood;	[1]
(iii) Any <b>two</b> from: <ul style="list-style-type: none"><li>• Higher pressure</li><li>• away from heart</li><li>• flows in veins/pulses in arteries</li><li>• higher velocity</li></ul>	[2]

4

5.

(a) (i) Blood passes through the heart twice; to go round the body once;	[2]
(ii) X – pulmonary artery; Y – hepatic vein;	[2]
(b) (i) Cholesterol/fat/atheroma;	[1]
(ii) Lack of oxygen/glucose; Less respiration/less energy; Heart (muscle) cells die/heart <b>muscle</b> dies/a section of heart dies; Any <b>two</b>	[2]
(iii) 10 times the risk;	[1]
(iv) Reduced the risk from 4 to 2 times/half the chance/50% less;	[1]
(c) Brain;	[1]

10

42