

Solutions

Each answer shows the steps, then the **result**.

2.1

- the pulmonary vein

2.2

- the elastic wall stretches when the heart pumps and recoils between beats, smoothing the high-pressure flow / maintaining pressure

3.1 B

- Veins have valves to prevent backflow; arteries do not

3.2 B

- A one-cell-thick wall gives a short diffusion distance for exchange

3.3

(a)

- at the arterial end the blood (hydrostatic) pressure is high; this forces plasma/fluid out through the capillary wall; cells and large plasma proteins stay in

(b)

- oxygen and glucose

3.4

- at the venous end the blood pressure is lower; and the plasma proteins left behind lower the water potential, so water returns by osmosis