Solutions

2.1

- Simple squamous (minimal diffusion distance).

2.2

- Collagen, densely regular (parallel).

2.3

- No – one layer: all cells touch the basement membrane.

3.1

- Alveolus: simple squamous (exchange).
- Proximal tubule: simple cuboidal with brush border (reabsorption).
- Oesophagus: stratified squamous (abrasion).
- Small intestine: simple columnar (absorption).
- Layer/shape consistently tied to function.

3.2

- Flattened villi collapse the absorptive surface area: the machinery is the membrane.
- Simple columnar with a brush border.
- Unabsorbed luminal contents retain water → osmotic diarrhoea.