

Solutions

2.1

- The proximal tubule.

2.2

- No ducts: secretion goes straight into blood – shortest path.

2.3

- About four weeks.

3.1

- Glomerulus: fenestrated capillary tuft (filtration).
- Proximal: cuboidal + brush border (reabsorption area).
- Loop: flat squamous (passive exchange).
- Distal: cuboidal, no brush (fine-tuning).
- Collecting duct: tall columnar (controlled conveyance).
- Consistent epithelium-function pairing.

3.2

- Keratinocytes re-seed from the basement membrane: no membrane, no resurfacing.
- Partial thickness: membrane intact → heals from remaining appendages; full thickness: membrane destroyed → needs grafting.
- First 48 h: fluid loss and infection – the barrier is gone.