Solutions

Marking: **M1** a correct method, **A1** the correct answer, **B1** an independent mark.

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

2.1

renew once: functional

screen reader: non-functional (accessibility)

export overdue list: functional

2.2

give a number: “95% of searches return results within 1 second”

and the conditions: “with 200 users online and 20 000 books”

2.3

“As a member, I want a reminder before a loan is due, so that I avoid a fine”

given a loan due in 2 days, when the nightly job runs, then one email is sent

given a returned book, then no reminder is sent

2.4

velocity $26 \div 4 = 6.5$ points a week

$52 \div 6.5 = \mathbf{8}$ weeks

3.1

(a) “fast”: “95% of pages load in under 2 s on the school Wi-Fi”; “safe”: “members log in with the school account; only librarians can edit records”

(b) “a member can reserve a book that is on loan; the next return is held for them for 3 days”

(c) reading records are personal data, and students may not want teachers to see them; “teachers see only class totals by subject, never a named student’s loans”

(d) reservations: Must, since it is a core library task; teacher view: Could, since it needs a privacy review first

3.2

(a) $3 + 5 + 3 + 3 + 13 = 27$ points; $27 \div 6.5 \approx \mathbf{4.2}$ weeks

(b) 3 weeks give about 19.5 points: renew, search, reminders and export (14) fit; multi-branch does not

(c) it is too big to finish in one week, so split it into smaller stories with their own tests

3.3

(a) what problem does it solve, and is it a Must for this term?; what can be dropped or moved to make room?

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(b) security: card data handled by a certified payment provider, never stored by BookShare; reliability: a payment is recorded exactly once, even if the network fails

(c) capacity $3 \times 6.5 = 19.5$ points; $10 + 8 = 18 \leq 19.5$: it just fits, with almost no margin for problems

(d) agree a trade with the library: add fines only if a Could item is dropped, or deliver a simpler “pay at the desk” record first; write the change down with its new acceptance tests and priority