**Self-assessment: 19 Further integration methods**

**1.** Use the substitution *u* = *x* − 1 to find .

*(accessible to students on the path to grade 3 or 4) [5 marks]*

**2.** Find .

*(accessible to students on the path to grade 3 or 4) [5 marks]*

**3.** Find the exact value of *m* such that .

*(accessible to students on the path to grade 3 or 4) [5 marks]*

**4. Do not use a calculator to answer this question.**

Evaluate .

*(accessible to students on the path to grade 5 or 6) [6 marks]*

**5.** **Do not use a calculator to answer this question.**

(a) Show that *x* d*x* = ln |sec *x*| + *c*.

(b) Find the exact value of *x* d*x*.

*(accessible to students on the path to grade 7) [9 marks]*