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

**1.** *u* = *x* – 1 ⇒ d*u* = d*x*



= 



 *[5 marks]*

**2.** Using integration by parts:



 *[5 marks]*

**3. **

⇒ *m* = (e6 − 1) *[5 marks]*

**4. **

Using substitution *u* = *x* + 3:

When *x* = −4, *u* = −1; when *x* = −3, *u* = 0; d*u* = d*x*

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*[6 marks]*

**5.** (a) Let *u* = cos *x*, then d*u* = −sin *x* d*x*.

So, 

= −ln|*u*| + *c*

= −ln|cos *x*| + *c*

= ln|sec *x*| + *c*

(b) 







*[9 marks]*