definate integrals

[SQA]   1. Evaluate $\int_1^2 \left(x^2 + \dfrac{1}{x} \right)^2 dx$.   **5**

[SQA]   2. Find the value of $\int_1^2 \dfrac{u^2 + 2}{2u^2} \, du$.   **5**

[SQA]   3.

      (*a*) Find the value of $\int_1^2 \left(4 - x^2 \right) dx$.   **3**

      (*b*) Sketch a graph and shade the area represented by the integral in (*a*).   **2**

[SQA]   4. Evaluate $\int_1^9 \dfrac{x + 1}{\sqrt{x}} \, dx$.   **5**

[SQA]   5. Find the value of $\int_1^4 \sqrt{x} \, dx$.   **4**

[SQA]   6. Evaluate $\int_1^2 \left(3x^2 + 4 \right) dx$ and draw a sketch to illustrate the area represented by this integral.   **5**

[SQA]   7. Evaluate $\int_{-3}^0 \left(2x + 3 \right)^2 dx$.   **4**

[END OF QUESTIONS]