

2.

In this question you must show all stages of your working.
Solutions relying entirely on calculator technology are not acceptable.

A continuous curve has equation $y = f(x)$, where $f(x)$ is an increasing function.

The table below shows values of x and the corresponding values of y for $y = f(x)$.

x	0.6	0.65	0.7	0.75	0.8
y	11.1	13.5	16.4	20.1	24.5

(a) Use the trapezium rule with all the values of y in the table to find an estimate for

$$\int_{0.6}^{0.8} f(x) \, dx \quad (3)$$

(b) Use the answer to part (a) and algebraic integration to find an estimate for

$$\int_{0.6}^{0.8} \left(f(x) + 5x^{\frac{3}{2}} + 3 \right) dx \quad (3)$$