

# TRAPEZIUM RULE

## A2 Unit 3: Pure Mathematics B

### WJEC past paper questions: 2010 – 2017

Total marks available 49 (approximately 1 hour)

1. Use the Trapezium Rule with five ordinates to find an approximate value for the integral

$$\int_1^2 \sqrt{1 + \frac{1}{x}} \, dx.$$

Show your working and give your answer correct to three decimal places. [4]

(Summer 10)

2. Use the Trapezium Rule with five ordinates to find an approximate value for the integral

$$\int_1^2 \sqrt{4 + x^3} \, dx.$$

Show your working and give your answer correct to three decimal places. [4]

(January 11)

3. Use the Trapezium Rule with five ordinates to find an approximate value for the integral

$$\int_{1.6}^2 \frac{1}{9 - x^3} \, dx.$$

Show your working and give your answer correct to three decimal places. [4]

(Summer 11)

4. Use the Trapezium Rule with five ordinates to find an approximate value for the integral

$$\int_1^3 \frac{x}{1 + \sqrt{x}} \, dx.$$

Show your working and give your answer correct to three decimal places. [4]

(January 12)

5. Use the Trapezium Rule with five ordinates to find an approximate value for the integral

$$\int_1^2 \frac{1}{\sqrt{5-x^2}} dx.$$

Show your working and give your answer correct to four decimal places. [4]

(Summer 12)

6. Use the Trapezium Rule with five ordinates to find an approximate value for the integral

$$\int_0^2 \sqrt{10-x^3} dx.$$

Show your working and give your answer correct to four decimal places. [4]

(January 13)

7. Use the Trapezium Rule with five ordinates to find an approximate value for the integral

$$\int_0^2 \frac{1}{2+x^3} dx.$$

Show your working and give your answer correct to three decimal places. [4]

(Summer 13)

8. Use the Trapezium Rule with five ordinates to find an approximate value for the integral

$$\int_2^4 \sqrt{1+\frac{6}{x}} dx.$$

Show your working and give your answer correct to three decimal places. [4]

(January 14)

9. (a) Use the Trapezium Rule with five ordinates to find an approximate value for the integral

$$\int_1^3 \log_{10}(3x-1) dx.$$

Show your working and give your answer correct to three decimal places. [4]

- (b) Use your answer to part (a) to deduce an approximate value for the integral

$$\int_1^3 \log_{10}(3x-1)^2 dx. [1]$$

(Summer 14)

10. Use the Trapezium Rule with five ordinates to find an approximate value for the integral

$$\int_1^3 \frac{x}{10 - \sqrt{x}} dx.$$

Show your working and give your answer correct to four decimal places. [4]

(Summer 15)

11. Use the Trapezium Rule with five ordinates to find an approximate value for the integral

$$\int_3^6 \frac{7 - \sqrt{x}}{7 + \sqrt{x}} dx.$$

Show your working and give your answer correct to three decimal places. [4]

(Summer 16)

12. Use the Trapezium Rule with five ordinates to find an approximate value for the integral

$$\int_0^2 \sqrt{7 - x^2} dx.$$

Show your working and give your answer correct to three decimal places. [4]

(Summer 17)