

Old Exam Questions – Old Course
The Trapezium Rule

(C2 Winter 2005)

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

$$\int_0^1 \sqrt{1+x^3} \, dx.$$

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

(C2 Summer 2005)

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

$$\int_0^1 \sqrt{1+x^2} \, dx.$$

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

(C2 Winter 2006)

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

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

Show your working and give your answer correct to four significant figures. [4]

(C2 Summer 2006)

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

$$\int_0^{0.4} \sqrt{1+x^4} \, dx.$$

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

(C2 Winter 2007)

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

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

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

(C2 Summer 2007)

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

$$\int_0^{\frac{\pi}{2}} \sqrt{1+\sin x} \, dx,$$

giving the value correct to three decimal places. [4]

(C2 Winter 2008)

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

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

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

(C2 Summer 2008)

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

$$\int_0^{0.6} (1+x^2)^{\frac{3}{2}} dx.$$

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

(C2 Winter 2009)

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

$$\int_0^1 \frac{1}{1+x^4} dx .$$

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

(C2 Summer 2009)

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

$$\int_0^{0.4} \frac{1}{2+\sqrt{x}} dx.$$

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

(C2 Winter 2010)

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

$$\int_1^{1.4} \sqrt{3-x^2} dx .$$

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

(C2 Summer 2010)

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]

(C2 Winter 2011)

1. 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]

(C2 Summer 2011)

1. 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]

(C2 Winter 2012)

1. 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]

(C2 Summer 2012)

1. 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]

(C2 Winter 2013)

1. 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]

(C2 Summer 2013)

1. 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]

(C2 Winter 2014)

1. 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]

(C2 Summer 2014)

1. (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

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

(C2 Summer 2015)

1. 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]

(C2 Summer 2016)

1. 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]

(C2 Summer 2017)

1. 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]

(C2 Summer 2018)

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

$$\int_1^4 \log_{10}(6x-1) dx.$$

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

$$\int_1^4 \log_{10} \sqrt{(6x-1)} dx. [1]$$