AQA – Further calculus – A2 Further Mathematics P1

1. June/2020/Paper_1/No.1

   Which of the integrals below is **not** an improper integral?

   Circle your answer.

   [1 mark]

   $$\int_0^\infty e^{-x}\,dx \qquad \int_0^2 \frac{1}{1-x^2}\,dx \qquad \int_0^1 \sqrt{x}\,dx \qquad \int_0^1 \frac{1}{\sqrt{x}}\,dx$$

2. June/2020/Paper_1/No.3

   The function $f(x) = x^2 - 1$

   Find the mean value of $f(x)$ from $x = -0.5$ to $x = 1.7$
   Give your answer to three significant figures.

   Circle your answer.

   [1 mark]

   $$-0.521 \qquad\qquad -0.434 \qquad\qquad -0.237 \qquad\qquad 0.786$$