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States or uses,
 $\sin(-x) \equiv -\sin x$
 $\cos(-x) \equiv \cos x$

$$f(-x) = \frac{e^{\sin(-x) + \cos(-x)}}{e^{\sin(-x) - \cos(-x)}}$$

$$f(-x) = \frac{e^{-\sin x + \cos x}}{e^{-\sin x - \cos x}}$$

$$f(-x) = \frac{e^{-\sin x + \cos x} \times e^{2\sin x}}{e^{-\sin x - \cos x} \times e^{2\sin x}}$$

$$f(-x) = \frac{e^{\sin x + \cos x}}{e^{\sin x - \cos x}}$$

$$f(-x) = f(x)$$

As $f(-x) = f(x)$, the function must be even

M1

M1

M1

M1

M1

M1

A1

[7]

[7 marks]