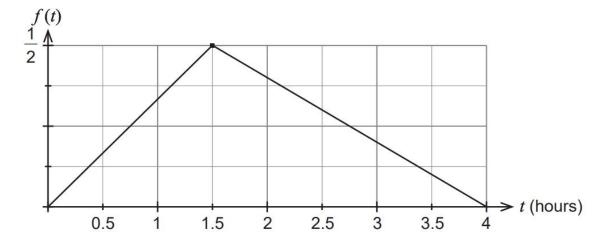**Question 3** (7 marks)

Waiting times for patients at a hospital emergency department can be up to four hours. The associated probability density function is shown below.

(a)   What is the probability a patient will wait less than one hour? (3 marks)

(b)   What is the probability a patient will wait between one hour and three hours? (4 marks)