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8. The continuous random variable  $X$  has probability density function  $f(x)$  given by

$$f(x) = \begin{cases} 2(x-2) & 2 \leq x \leq 3 \\ 0 & \text{otherwise} \end{cases}$$

- (a) Sketch  $f(x)$  for all values of  $x$ . (3)

- (b) Write down the mode of  $X$ . (1)

Find

- (c)  $E(X)$ , (3)

- (d) the median of  $X$ . (4)

- (e) Comment on the skewness of this distribution. Give a reason for your answer. (2)



