MARKS

7
(3, 2, 2)

2. A continuous random variable Y has the probability density function given at the right.

$$f(y) = \begin{cases} ky^{-2} & ; \quad y \geq 1, \\ 0 & ; \quad \text{otherwise.} \end{cases}$$

(a) Evaluate the constant k and sketch the p.d.f. of Y.

(b) Evaluate: $\Pr(2 < Y \leq 4)$.

(c) Find the median of Y.

(a)

k (a)

(b)

Probability (b)

(c)

Median (c)