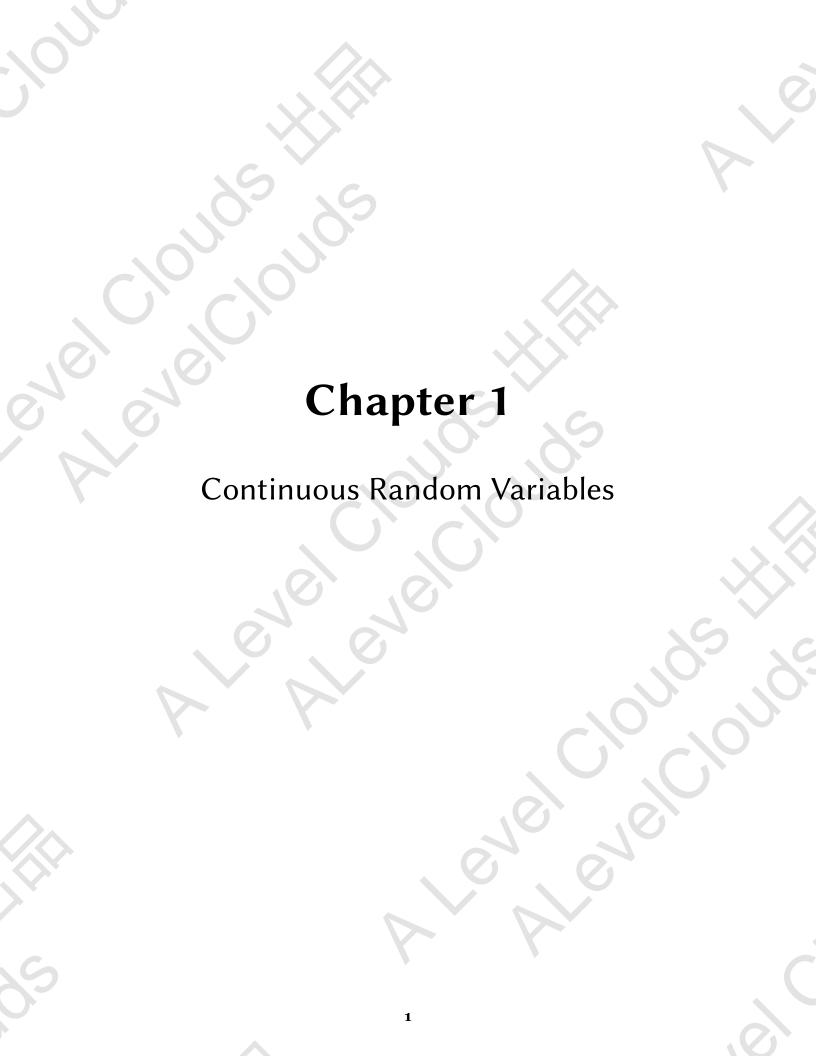
## CIE Further Probability & Statistics 分类真题

2020-2022 册

A Level Clouds 出品

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## Q1: 9231/41/S20

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$$f(x) = \begin{cases} \frac{3}{16} (2 - \sqrt{x}) & 0 \le x < 1, \\ \frac{3}{16\sqrt{x}} & 1 \le x \le 9, \\ 0 & \text{otherwise.} \end{cases}$$

a)	Find $E(X)$ .				[3]
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		•••••			
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		9 1	<b>O</b>		
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The random variable *Y* is such that  $Y = \sqrt{X}$ . **(b)** Find the probability density function of *Y*. [5]

## Q2: 9231/43/S20

 $\mathbf{3}$  The continuous random variable X has probability density function f given by

$$f(x) = \begin{cases} \frac{1}{5}x & 0 \le x < 2\\ \frac{2}{15}(5-x) & 2 \le x \le 5, \\ 0 & \text{otherwise.} \end{cases}$$

ind the cumulative distributi	on function of A.	
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Find the median value of $X$ .		
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(c)	Find $E(X^2)$ .			[2]
	16			
	10, 73			
	)		<u> </u>	
( <b>d</b> )	Find $P(1 \le X \le 3)$ .			[2]
	Q1 Q1			76
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		0,1		•••••