If for some x $\in$ **R**, the frequency distribution of the marks obtained by 20 students in a test is :

Marks	2	3	5	7
Frequency	$(x+1)^2$	$2x-5$	x^2-3x	x

then the mean of the marks is :

[Main April 10, 2019 (I)]

(a) 3.2
(b) 3.0
(c) 2.5
(d) 2.8

(d) Number of students are,

$$(x+1)^2+(2x-5)+(x^2-3x)+x=20$$

$$\Rightarrow 2x^2+2x-4=20 \Rightarrow x^2+x-12=0$$

$$\Rightarrow (x+4)(x-3)=0 \Rightarrow x=3$$

$\therefore$

Marks	2	3	5	7
No. of students	16	1	0	3

$$\text{Average marks} = \frac{32+3+21}{20} = \frac{56}{20} = 2.8$$