

Q 4 = Ans

$x$	0	1	2	3	4	5	6	7	8
$F$	1	8	28	56	70	56	28	8	1

Sol

$$\mu_1 = \frac{\sum f_i (x_i - \bar{x})}{N} = \frac{\sum (f_i x_i)}{N}$$

$$= \frac{0 + 8 + 56 + 168 + 280 + 280 + 168 + 56 + 8}{256}$$

$$\bar{x} = \frac{1024}{256} = 4$$

$$y_i = x_i - \bar{x} = x_i - 4$$

$x_i$	$F_i$	$y_i$	$f_i y_i$	$f_i y_i^2$	$f_i y_i^3$	$f_i y_i^4$
0	1	-4	-4	16	-64	256
1	8	-3	-24	72	-216	648
2	28	-2	-56	112	-224	448
3	56	-1	-56	56	-56	56
4	70	0	0	0	0	0
5	56	1	56	56	56	56
6	28	2	56	112	<del>724</del>	448
7	8	3	24	72	<del>216</del>	648
8	1	4	4	16	<del>64</del>	256
			0	512	0	2816

$$\mu_1 = \frac{1}{N} \sum (f_i y_i) = 0$$

$$\mu_3 = \frac{1}{N} \sum f_i y_i^3 = 0$$

$$\mu_2 = \frac{1}{N} \sum f_i y_i^2 = \frac{512}{256} = 2$$

$$\mu_4 = \frac{1}{N} \sum f_i y_i^4 = \frac{2816}{256} = 11$$

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