

Event: is a collection of sample points.
Probability of an event: is the sum of the probabilities of the sample points in the event.

Example (Q14 page 154) An experiment has four equally likely outcomes E_1, E_2, E_3, E_4 .

- (a) What is the prob. that E_2 occurs? $\frac{1}{4}$
 (b) = = = = any two of the outcomes occur? i.e. (E_1 or E_3) $\frac{1}{4} + \frac{1}{4} = \frac{1}{2}$
 (c) = = = = = Three = = = = ? (E_1 or E_2 or E_4) $\frac{1}{4} + \frac{1}{4} + \frac{1}{4} = \frac{3}{4}$

Example (Q21 page 156)

	Age	Number (million of people)
	≤ 19	80.5
(a) what is the prob. the person is 20-24 years old?	20-24	19.0
	25-34	39.9
	35-44	45.2
	45-54	37.7
	55-64	24.3
	≥ 65	35.0
		<u>281.6 million</u>

(b) what is the prob. the person is 20-34 years old?
 $\frac{19 + 39.9}{281.6} = \frac{58.9}{281.6} = 0.21$

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(c) what is the prob. the person is 45 years or older?
 $\frac{37.7 + 24.3 + 35}{281.6} = \frac{97}{281.6} = 0.34$