

The following is data collected from a study of 566 patients of the side effects occurring when given a placebo, or pain medications, Drug A, or Drug B.

Side effect	Number of side effects in 12-week clinical trial			
	Placebo	Drug A	Drug B	Totals
Upper respiratory congestion	10	32	19	61
Sinus headache	11	25	32	68
Stomach ache	2	46	12	60
Neurological headache	34	55	72	161
Cough	22	18	31	71
Lower respiratory congestion	2	5	1	8
No side effect	111	5	21	137
Total	192	186	188	566

Suppose a patient is chosen at random from this study.

$A = \{\text{patients given Drug A}\}$

$B = \{\text{patients given Drug B}\}$

$C = \{\text{patients given a placebo}\}$

$D = \{\text{patients that developed a cough}\}$

$E = \{\text{patients that developed a neurological headache}\}$

$F = \{\text{patients that had no side effect}\}$

<i>Demonstration Problems</i>	<i>Practice Problems</i>
1. (a) $P(A \text{ or } B) =$	1. (b) $P(A \text{ or } C) =$
2. (a) $P(C \text{ or } D) =$	2. (b) $P(A \text{ or } E) =$
3. (a) $P(A \text{ and } F) =$	3. (b) $P(B \text{ and } F) =$
Answers: 1. (b) ≈ 0.668 ; 2. (b) 0.516 ; 3. (b) 0.037	