

MA 110 WORKSHEET (8.2) "EXTRA WORKSHEET 4"

Name Solutions

Blood Type	Male M	Female F	TOTALS
O	80	370	450
A	150	250	400
B	50	50	100
AB	20	30	50
TOTALS	300	700	1,000

Use the table to find the probability that a person is selected at random from the group

A. has blood type B?  $P(B)$

$$(\text{sum of row B}) / 1000 = 100/1000$$

B. is female **and** has blood type B?  $P(F \cap B)$

$$(\text{Row B intersect column F}) / 1000 = 50/1000$$

C. the person is female **or** has blood type B?  $P(F \cup B)$

$$(\text{sum of column F plus row B intersect column M}) / 1000$$

$$(370 + 250 + 50 + 30 + 50) / 1000 = (700 + 50) / 1000 = 750/1000$$

D. is female?  $P(F)$

$$(\text{Sum of column F}) / 1000 = 700/1000$$

E. is female **and** does not have blood type B?  $P(F \cap B')$

$$(\text{Sum of column F without row B}) / 1000$$

$$(700 - 50) / 1000 \text{ or } (370 + 250 + 30) / 1000 = 650/1000$$