

NAME _____

SCORE: _____/20

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1. 1800 people were surveyed. The following table contains data about their favorite colors.

	B BLUE	R RED	G GREEN	Y YELLOW	Pu PURPLE	Pi PINK	O ORANGE	TOTALS
WOMEN (M')	80	170	80	20	250	350	30	980
MEN (M)	450	100	120	10	5	5	130	820
TOTALS	530	270	200	30	255	355	160	1800

Use the table to calculate the following probabilities.

- A. The probability that a person selected at random from this group is a man **and** their favorite color is green. $P(\mathbf{M} \cap \mathbf{G})$
- B. The probability that a person selected is a woman **or** favorite color is red. $P(\mathbf{M}' \cup \mathbf{R})$
- C. The probability that a person selected at random is a woman **given that** favorite color is purple. $P(\mathbf{M}' | \mathbf{Pu})$
- D. The probability that person selected at random has favorite color of red, **given that** the person is a man. $P(\mathbf{R} | \mathbf{M})$
- E. The probability that a person selected at random from this group is a man **and** their favorite color is not purple. $P(\mathbf{M} \cap \mathbf{Pu}')$

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

2. Use the table to find the probability that a person is selected at random from the group
Note: Key words have bold type!!

A. has blood type B?

B. is female **and** has blood type B?

C. has blood type B **given that** the person is female?

D. is female **given that** the person has blood type B?

E. the person is female **or** has blood type B?