(1) Mutually Exclusive. There are no marbles that are both red and green

(2) $P(\text{Blue}) \times P(\text{Green})$

$\frac{5}{15} \times \frac{6}{15} = \frac{30}{225} = \boxed{\frac{2}{15}}$

(3) $P(\text{Red}) * P(\text{Red given a red is gone})$

$\frac{4}{15} \times \frac{3}{14} = \frac{12}{210} = \boxed{\frac{2}{35}}$

(4) $n = 7+4+5+6 = 22$

$P(B \text{ and } S) = \frac{4}{22} = \boxed{\frac{2}{11}}$

(5) $P(B \text{ or } S) = \frac{7+4+5}{22} = \frac{16}{22} = \boxed{\frac{8}{11}}$

(6) $P(S) = \frac{5+4}{22} = \boxed{\frac{9}{22}}$

(7) $P(\text{not } B) = \frac{5+6}{22} = \frac{11}{22} = \boxed{\frac{1}{2}}$

(8) $P(S \text{ given } B) = \frac{4}{7+4} = \boxed{\frac{4}{11}}$

	MALE	Female	Tot
Pass	14	9	23
Not Pass	4	4	8
TOT	18	13	31

(9) $P(\text{Boy AND Pass}) = \frac{14}{31}$

(10) $P(\text{Girl or not Pass}) = P(G) + P(\text{not Pass}) - \text{overlap}$

$\frac{13}{31} + \frac{8}{31} - \frac{4}{31}$

$= \boxed{\frac{17}{31}}$

(11) $P(\text{pass given boy}) = \frac{14 \text{ passing boys}}{18 \text{ boys}} = \boxed{\frac{7}{9}}$

(12) If $P(M) \times P(N) = P(M \text{ and } N)$ then they're Independent

$.279 * .552 \stackrel{?}{=} .821$

$.154 \neq .821$

they are not independent