1.

a) Independent events.

b) Independent events.

c) Independent events.

d) Dependent events.

e) Independent events.

f) Dependent events.

2. $P(\text{making basketball team}) = 70\%$ $P(\text{passing geometry quiz}) = 80\%$

$P(\text{not making basketball team}) = 30\%$ $P(\text{failing geometry quiz}) = 20\%$

"really bad news" - receiving failed geometry quiz & get cut from the team

$$P(RBD) = P(\text{not making basketball team}) \times P(\text{failing geometry quiz})$$

$$= \frac{30}{100} \times \frac{20}{100}$$

$$= \frac{3}{10} \times \frac{2}{10} = \frac{6}{100}$$

3. $P(\text{valtteri dies}) = \frac{1}{5}$

4. $P(\text{Test A}) = 95\%$ $P'(\text{Test A}) = 5\%$

$P(\text{Test B}) = 89\%$ $P'(\text{Test B}) = 11\%$

a) $P(A \text{ and } B \text{ correct}) = P(A) \times P(B)$

$$= \frac{95}{100} \times \frac{89}{100}$$

$$= 0.95 \times 0.89$$

$$= 0.8455$$

b) $P(\text{Test A \& B wrong}) = P'(\text{Test A}) \times P'(\text{Test B})$

$= \frac{5}{100} \times \frac{11}{100}$

$= 0.05 \times 0.11$

$= \underline{0.0055}$

c). $P(\text{at least 1 passed}) = \frac{P(\text{Test A}) \times P(\text{A} \cap \text{B})}{P(\text{Test B})}$

$= \frac{0.95 \times 0.8955}{0.8955}$

$= \underline{0.9025}$

5@. Rocco - 10min - 85% success. $P(\text{Success with thru}) = 60\%$

Biff - 10min - 15% success.

Rocco $\Rightarrow P(\text{success}) = \frac{85}{100} \times \frac{60}{100} = 0.51$

Biff $\Rightarrow P(\text{success}) = \frac{15}{100} \times \frac{75}{100} = 0.1125$

$\Rightarrow$ Rocco bear is likely to enjoy a tasty treat on any given trial.

6) $P(\text{cook}) = 85\%$ $P(\text{Swimming}) = 60\%$

$P(\text{no cook}) = 15\%$ $P(\text{no swimming}) = 40\%$

$P(\text{done}) = P(\text{cook}) \times P(\text{swimming})$

$= \frac{85}{100} \times \frac{60}{100}$

$= 0.85 \times 0.6 = \underline{0.51} = \underline{\frac{51}{100}}$

7. P(crossing pass) = 55%

P' = 45%

P(slapshot) = 1/3

P(no slapshot) = 2/3.

P(slapshot score) = 22/100

P(slapshot miss) = 78/100

P(scoring rocket launch) = P(rocket launch) × P(slapshot).

= 55/100 × 1/3 = 55/330 = 11/60

10. Passing data mgt examination 17 : 3

Against passing the biology examination 3 : 7

a) P(passing both exams). = P(passing data mgt exam) × P(passing biology exam)

= 17/20 × 7/10

= 0.595

b) P(failing both examination) = P(failing data mgt exam) × P(failing biology exam)

= 3/20 × 3/10

= 0.045

9. The events can be dependant in that two outcomes are expected from each that is it's either passing or failing.