

Probability 29

1) A typical class of 30 students in a school, has 6 students who wear glasses.

a) What is the probability that a student will wear glasses?

b) The school has 1500 students. How many students would you expect to wear glasses at this school?

2) Five coins are flipped. Find the probabilities.

a) $P(5 \text{ heads})$

b) $P(3 \text{ heads})$

3) A jar contains; 2 white, 3 green, and 4 red marbles. Pick one marble. Find the probabilities.

a) $P(\text{green})$

b) $P(\text{white or red})$

4) Suppose that we have the above situation (the jar in question 3). One marble is picked, then replaced. Another marble is picked. Find the probabilities.

a) $P(\text{green then green})$

b) $P(\text{white then red})$

5) One card is dealt from a shuffled deck. Find the probabilities.

a) $P(\text{king})$

b) $P(\text{red five})$

6) Three games are played. The probability of a win is 25%. Find the probabilities.

a) $P(\text{three wins})$

b) $P(\text{two wins})$

7) Roll a pair of dice. Find the probabilities.

a) $P(\text{sum} > 4)$

b) $P(\text{at least one five})$

8) Roll three dice. Find the probabilities.

a) $P(\text{sum} = 5)$

b) $P(\text{at least two fives})$

Answers: 1)a) $1/5$, b) 300, 2)a) $1/32$, b) $5/16$, 3)a) $1/3$, b) $2/3$,
4)a) $1/3 \times 1/3 = 1/9$, b) $2/9 \times 4/9 = 8/81$, 5)a) $1/13$, b) $1/26$, 6)a) 0.016, b)
0.14, 7)a) $5/6$, b) $11/36$, 8)a) $6/216 = 1/36$, b) $P(2 \text{ fives or } 3 \text{ fives}) =$
 $P(2 \text{ fives}) + P(3 \text{ fives}) = 18/216 + 1/216 = 19/216$.