



# TEST YOUR SKILLS

**1 TRUE OR FALSE?**

A box contains 7 red balls and 4 white balls. Two balls are taken out and not replaced. The events «the first ball is red» and «the second ball is white» are independent.

**2** A bag contains 2 red beads and 3 black beads. Two beads are taken from the bag without replacement. What is the probability that both beads are same colour?

$$\left[ \frac{2}{5} \right]$$

**3** On my way to work the probability that I have to stop at the first set of traffic lights is 0.3. The probability of stopping at the second 0.75. Find the probability that on one morning

- a) I stop at both sets of lights;
- b) I stop only once at the second set of lights;
- c) I stop at least once.

[a) 0,225; b) 0,525; c) 0,825]

**4** There are five cards, two red and three black. You draw two cards, without replacement. What is the probability that both have the same color?

(USA Lehigh University: High School Math Contest, 2005)

$$\left[ \frac{2}{5} \right]$$

**5** What is the probability of tossing three standard dice and getting a sum of 15?

(USA Bay Area Math Meet, Bowl Sampler, 1997)

$$\left[ \frac{5}{108} \right]$$

**6** A ball is removed at random from an urn which has 10 white and 10 black balls, and is not replaced in the urn. This process is repeated twice. What is the probability that both balls are white?

(USA Bay Area Math Meet, Bowl Sampler, 1997)

$$\left[ \frac{9}{38} \right]$$

**7** A and B each throw a die. What is the probability that A's die shows a greater value than B's die?

(USA Bay Area Math Meet, Bowl Sampler, 1997)

$$\left[ \frac{15}{36} \right]$$

**GLOSSARY**

**bag:** borsa, sacchetto

**bead:** perlina

**card:** carta da gioco

**die (dice):** dado (dadi)

**to draw-drew-drawn:** lanciare

**random:** a caso

**to replace:** rimpiazzare

**replacement:** sostituzione  
reintroduzione

**to stop:** fermarsi

**to throw-threw-thrown:**

gettare, tirare

**to toss:** buttare, lanciare

**twice:** due volte, doppio

**urn:** urna