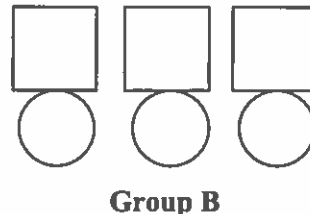
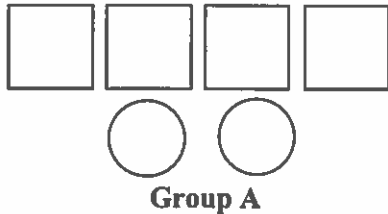


Calculating 'best chance'

1. A square has to be picked from one of these sets. Which set gives the best chance?

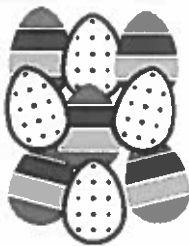


$$P(\text{Square}) = \frac{4}{6} = 0.66\dots$$

$$P(\text{Square}) = \frac{3}{6} = 0.5$$

so group A

- 2.



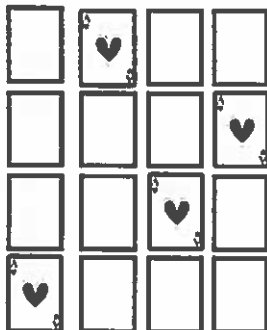
Which egg is more likely to be chosen from this group? Stripes or dots?

$$P(\text{stripes}) = \frac{5}{9} = 0.55\dots$$

$$P(\text{dots}) = \frac{4}{9} = 0.44\dots$$

so stripes.

3. In a game at the funfair you win if you throw a dart and it lands on an Ace.



- (a) Is this a fair game? No as you are unlikely to win.
 (b) Why do you say this? Very few aces compared to other cards
 (c) Why do the fair owners do this? To make a profit
 (d) What are the chances that you will win a prize?

$$P(\text{prize}) = \frac{4}{16} = \frac{1}{4}$$

4. Two classes are to send pupils on a school trip. The pupils are chosen at random.

Class 3A has 25 pupils and can send 4 of them on the trip.

Class 3B has 30 pupils and can send 5 of them on the trip.

In which class does any one pupil have a better chance of being selected to go on the trip?

Justify your answer by calculation.

$$P(3A) = \frac{4}{25} = 0.16$$

$$P(3B) = \frac{5}{30} = 0.1\dot{6}$$

Class 3B as $0.1\dot{6} > 0.16$.

5. Two tennis clubs have received tickets for their members to attend a tournament.
The club members are chosen at random.

Club A has 70 members and has received 12 tickets.
Club B has 110 members and has received 18 tickets.

In which club does any one member have a better chance of being selected?
Justify your answer by calculation.

$$P(\text{Club A}) = 0.171 \quad P(\text{Club B}) = 0.164$$

so club A as $0.171 > 0.164$

6. Three hockey teams play in the same league.

Team A have won 7 out of their 10 games.
Team B have won 8 out of their 12 games.
Team C have won 10 out of their 16 games.

$$\text{Team A} = \frac{7}{10} = 70\%$$

$$\text{Team B} = \frac{8}{12} = 66.6\%$$

$$\text{Team C} = \frac{10}{16} = 62.5\%$$

Which team has the best winning record?

Justify your answer by calculation.

so Team A.

7. Three rugby teams play in the same town.

Team A have won 8 out of their 13 games.
Team B have won 10 out of their 16 games.
Team C have won 13 out of their 20 games.

$$\text{Team A} = \frac{8}{13} = 61.5\%$$

$$\text{Team B} = \frac{10}{16} = 62.5\%$$

$$\text{Team C} = \frac{13}{20} = 65\%$$

Which team has the best winning record?

Justify your answer by calculation.

so Team C