*Probability - True or False?*

* In pairs, decide whether each statement is a true or false.
* Write down your reasons for your decision.
* Join together with another pair and try to reach an agreement as a four.

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| **Statement** | **True or False** |
| When you roll a six sided die it is harder to roll a six than a four[http://tbn2.google.com/images?q=tbn:uH9WngYizCMl4M:http://www.flightglobal.com/blogs/terminal-q/dice.gif](http://images.google.co.uk/imgres?imgurl=http://www.flightglobal.com/blogs/terminal-q/dice.gif&imgrefurl=http://www.flightglobal.com/blogs/terminal-q/2008/12/altantic-city-airport-readies.html&usg=__GpwcPcGrXJLJMrFTjXUDI554CLg=&h=413&w=552&sz=7&hl=en&start=1&tbnid=uH9WngYizCMl4M:&tbnh=100&tbnw=133&prev=/images?q=dice&gbv=2&ndsp=18&hl=en&sa=N) |  |
| Scoring a total of three with two dice is twice as likely as scoring a total of two. [http://tbn2.google.com/images?q=tbn:uH9WngYizCMl4M:http://www.flightglobal.com/blogs/terminal-q/dice.gif](http://images.google.co.uk/imgres?imgurl=http://www.flightglobal.com/blogs/terminal-q/dice.gif&imgrefurl=http://www.flightglobal.com/blogs/terminal-q/2008/12/altantic-city-airport-readies.html&usg=__GpwcPcGrXJLJMrFTjXUDI554CLg=&h=413&w=552&sz=7&hl=en&start=1&tbnid=uH9WngYizCMl4M:&tbnh=100&tbnw=133&prev=/images?q=dice&gbv=2&ndsp=18&hl=en&sa=N) |  |
| [http://tbn3.google.com/images?q=tbn:Wrgb8MD3AvWCSM:http://www.asportsbetting.com/images/lottery-ticket.gif](http://images.google.co.uk/imgres?imgurl=http://www.asportsbetting.com/images/lottery-ticket.gif&imgrefurl=http://www.asportsbetting.com/national-lottery/latest-lotto-649-numbers/&usg=__F7hSFLUtx163zLtN_kgIyf7oxNA=&h=340&w=310&sz=9&hl=en&start=3&tbnid=Wrgb8MD3AvWCSM:&tbnh=119&tbnw=109&prev=/images?q=lottery+ticket&gbv=2&hl=en) In a lottery the six numbers 3,12,26,37,44,45 are more likely to come up than the six numbers 1,2,3,4,5,6. |  |
| Two equally matched teams decide to play a game of football. There are three outcomes in a football match: win, lose or draw. The probability of winning is therefore 1/3. [http://tbn1.google.com/images?q=tbn:wS7Bd0-mBDxKwM:http://ihome.ust.hk/~su_ceng/football.jpg](http://images.google.co.uk/imgres?imgurl=http://ihome.ust.hk/~su_ceng/football.jpg&imgrefurl=http://ihome.ust.hk/~su_ceng/sport%20team.html&usg=__-EGCze8SFH_mSbcVd-7g7m2zSJc=&h=300&w=300&sz=12&hl=en&start=17&tbnid=wS7Bd0-mBDxKwM:&tbnh=116&tbnw=116&prev=/images?q=football&gbv=2&hl=en&sa=G) |  |
| If you toss a coin five times and get five heads in a row, the next time you toss a coin it is more likely to show a tail than a head.  [http://tbn0.google.com/images?q=tbn:1QEw0q4t67mhRM:http://www.falklandcollectibles.com/TwoPoundCoinBack.jpg](http://images.google.co.uk/imgres?imgurl=http://www.falklandcollectibles.com/TwoPoundCoinBack.jpg&imgrefurl=http://www.falklandcollectibles.com/CoinsTwoPound.htm&usg=__UWz_A0f3EJjStMKiQ9sN80eqHRM=&h=500&w=500&sz=78&hl=en&start=3&tbnid=1QEw0q4t67mhRM:&tbnh=130&tbnw=130&prev=/images?q=pound+coin&gbv=2&hl=en&sa=G) |  |
| [http://tbn2.google.com/images?q=tbn:oP8m6UkGiclH2M:http://www.cakecarousel.com/cakecarousel/images/product/1172270909_Happy%2520Birthday.jpg](http://images.google.co.uk/imgres?imgurl=http://www.cakecarousel.com/cakecarousel/images/product/1172270909_Happy%20Birthday.jpg&imgrefurl=http://www.myspace.com/deargodihateusernames&usg=__cgsbjKrMBx55GflxQNoS9NodjjQ=&h=310&w=448&sz=29&hl=en&start=4&tbnid=oP8m6UkGiclH2M:&tbnh=88&tbnw=127&prev=/images?q=happy+birthday&gbv=2&ndsp=18&hl=en&sa=N) In a group of ten psychology students, the probability of two psychology students being born on the same day of the week is 1. |  |
| If a family has already got four boys, then the next baby is more likely to be a girl than a boy.  [http://tbn3.google.com/images?q=tbn:J5nPBlk2GvOqWM:http://www.glacialridge.org/images/ecards/baby_stork_boy_lg.jpg](http://images.google.co.uk/imgres?imgurl=http://www.glacialridge.org/images/ecards/baby_stork_boy_lg.jpg&imgrefurl=http://www.glacialridge.org/ecards.php&usg=__eEUsskzVhTNqRaN4XHh_vIoMct0=&h=310&w=415&sz=36&hl=en&start=12&tbnid=J5nPBlk2GvOqWM:&tbnh=93&tbnw=125&prev=/images?q=baby+boy&gbv=2&hl=en&sa=G) |  |