



# Resources on the web

# Statistical Data

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Narcotics Division, Security Bureau

○ [http://www.nd.gov.hk/c\\_statistics\\_list.htm](http://www.nd.gov.hk/c_statistics_list.htm)

○ Agriculture, Fisheries and Conservation Department  
Country and Marine Parks Authority

○ [http://www.afcd.gov.hk/tc\\_chi/whatsnew/what\\_con/what\\_con.html](http://www.afcd.gov.hk/tc_chi/whatsnew/what_con/what_con.html)

○ Environmental Protection Department

○ [http://www.epd.gov.hk/epd/tc\\_chi/environmentinhk/waste/data/waste\\_data.html](http://www.epd.gov.hk/epd/tc_chi/environmentinhk/waste/data/waste_data.html)



# Teaching:

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The Internet Glossary of Statistical Terms

- <http://www.animatedsoftware.com/statglos/statglos.htm>

Probability Games

- <http://www.betweenwaters.com/probab/probab.html>



# Teaching:

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## A course in Business Statistics

[http://wps.prenhall.com/bp\\_shannon\\_coursebus\\_3/0,6134,221218-,00.html](http://wps.prenhall.com/bp_shannon_coursebus_3/0,6134,221218-,00.html)

## Introduction to the Practice of Statistics

<http://bcs.whfreeman.com/ips5e/default.asp>

## Statistics CAI

<http://newton.ma.polyu.edu.hk/Stat/Laboratory>

## Quick-Calc Random number generator

<http://www.graphpad.com/quickcalcs/randomN1.cfm>



# Teaching:

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## Rice Virtual Lab in Statistics

<http://www.ruf.rice.edu/~lane/rvls.html>

## 高中數學資源中心

[http://content.edu.tw/senior/math/tn\\_t2/math01/index.htm](http://content.edu.tw/senior/math/tn_t2/math01/index.htm)

## 統計網路學習館

<http://estat.ncku.edu.tw/>

## 文章（數學傳播）

<http://episte.math.ntu.edu.tw/cgi/mathfield.pl?fld=pro>



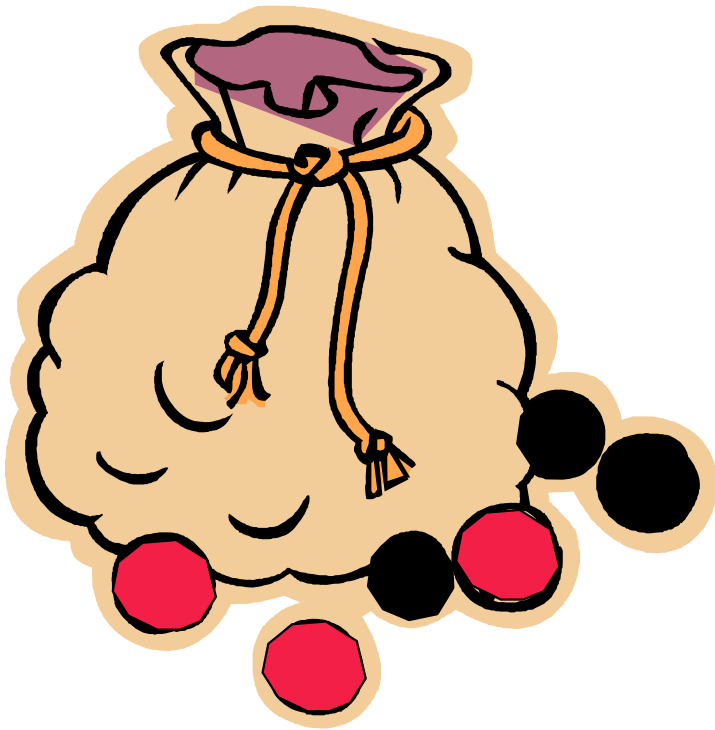
# Questions:

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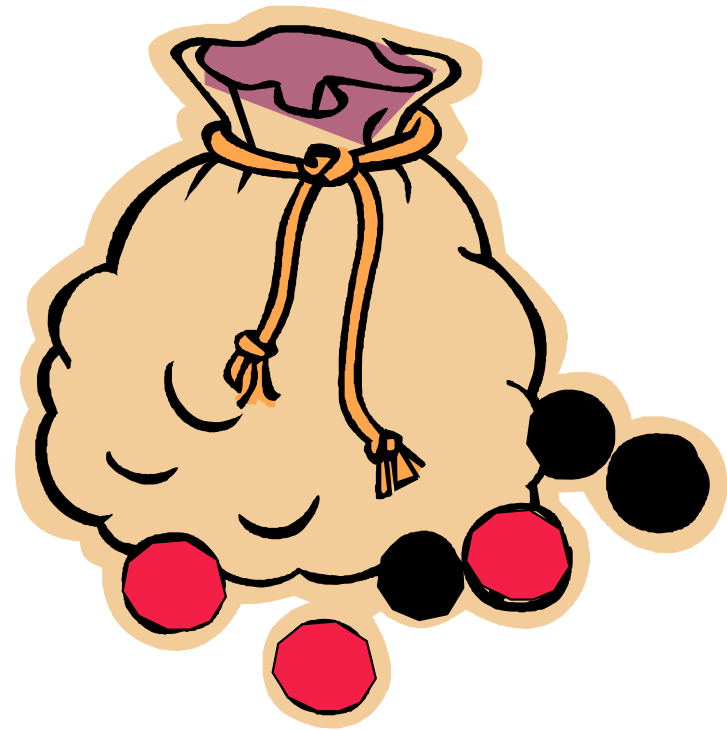
- Hong Kong Statistical Society (The Royal Statistical Society)
- <http://www.hkss.org.hk/Exam/download.htm>
- Edexcel
- <http://www.edexcel.org.uk/qualifications/QualificationAward.aspx?id=76189>

# 趣題?

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甲袋: 50 個紅色的球  
50 個黑色的球



乙袋: 100 個紅色的及黑色  
的球，但個別數目不詳



# 機會

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- 給你一次機會，只要你在其中一個袋裏抽中紅球，便獎你一萬元，那麼你在甲袋裏抽？還是在乙袋裏抽？為甚麼？



# 再給機會

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- 遊戲繼續！再給你多一次機會，同樣是兩個袋。但這一次是抽中黑球才有一萬元。你會抽哪一個袋？甲還是乙？為甚麼？



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## 「艾爾伯格弔詭」 (Ellsberg Paradox)

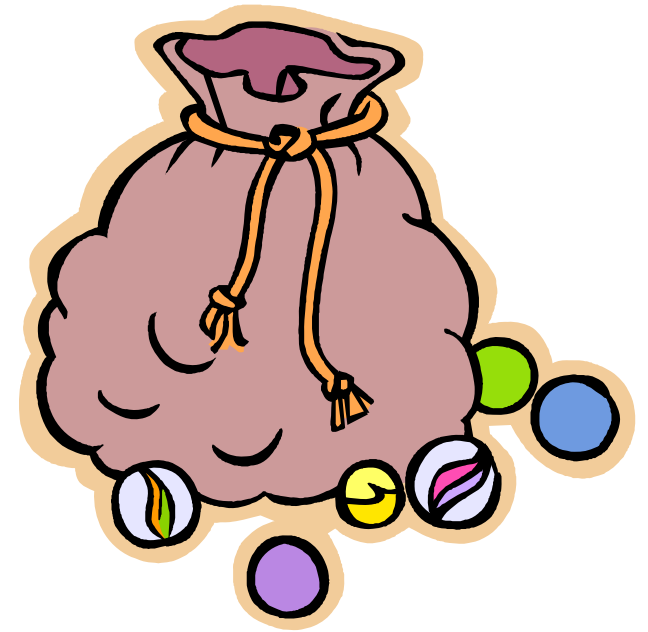
- [http://en.wikipedia.org/wiki/Ellsberg\\_paradox](http://en.wikipedia.org/wiki/Ellsberg_paradox)  
[#Mathematical\\_demonstration](#)

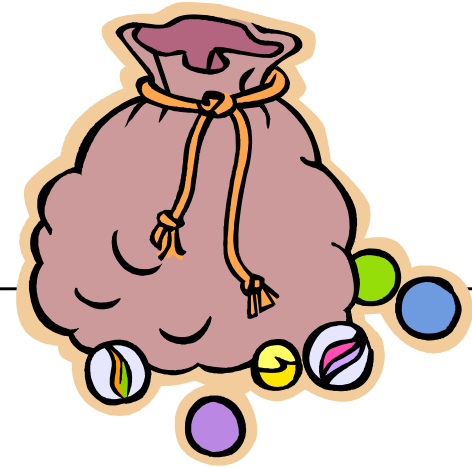
# Another question:

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The bag contains 90 balls:

- 30 red balls (R)
- Other 60 balls are either black (B) or yellow (Y)





1st choice:

| Gamble A                                 | Gamble B                                   |
|--|--|
| You receive \$100 if you draw a red ball | You receive \$100 if you draw a black ball |

2nd choice:

| Gamble C   | Gamble D   |
|--|--|
| You receive \$100 if you draw a red or yellow ball | You receive \$100 if you draw a black or yellow ball |



# Mathematical demonstration:

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Gamble A:

$$\frac{1}{3}U(\$100) > B \cdot U(\$100)$$

$$\frac{1}{3} > B$$

Gamble D:

$$B \cdot U(\$100) + Y \cdot U(\$100) > \frac{1}{3}U(\$100) + Y \cdot U(\$100)$$

$$B > \frac{1}{3}$$