八十七年度行政院國家科學委員會專題研究計畫

# 台灣地區藝術科系與非藝術科系學生對錯視圖形的反應及其誤差率之調查研究

# 問卷調查表

計畫主持人
國立台灣藝術學院工藝學系副教授
楊　清　田

# 錯視圖形的認知及其誤差率調查問卷　　i01.doc

## 一、受試者基本資料

就讀學校：　　科系別：

學 歷 別：□高中、職（含五專一二三年級）　□大專（含五專四、五年級）

教育屬性：□非美術、設計相關科系　□美術、設計相關科系

性　　別：□男　□女

年　　齡：□ 10~14　□ 15~19　□ 20~24　□ 25~29　□ 30 以上（以實歲計）

**《為了使問卷填寫正確，請務必詳閱以下說明》**

## 二、試驗說明

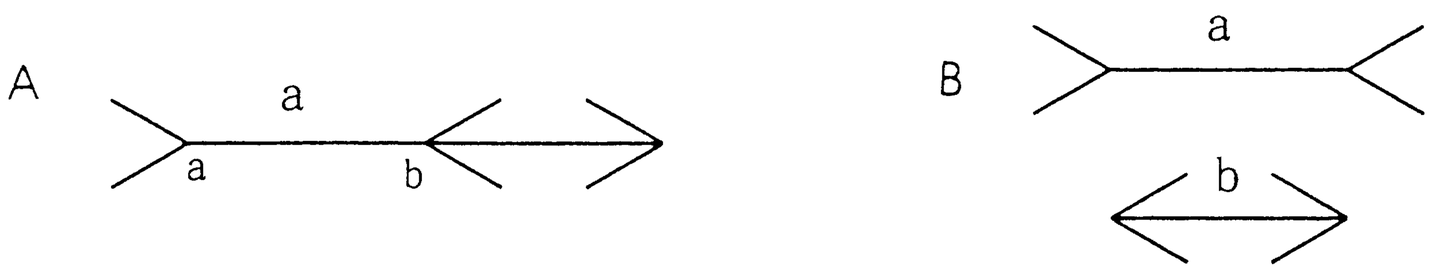
1．本問卷的目的在瞭解國人(高中生與大學生)對於錯視圖形(在一般狀況下，眼睛對其大小或形態發生錯誤判斷的圖形現象）的認知狀況，並測試錯視誤差的程度，以作為教學、研究之參考。敬請惠予合作。

2．問卷內容分為「錯視圖形測驗」與「錯視教學反應」兩部分。圖形測驗部分有三項命題（ 15 道子題），每一子題都有六組比較的圖形，其形式、大小不盡相同；請根據各命題的指示，選擇長度或大小最相等的一組，將答案填註於答案欄中。錯視教學反應部分有 10 題，請按說明鉤選即可。

3．錯覺、錯視是一般人的正常現象，但每個人的程度不見得相同。無論您是否曾經學過或認識這些圖形，均請依視覺的直覺判斷作答；切勿使用工具去測量，以維持錯視的眞實性。決定之後，請儘量不再更改。

## 三、錯視圖形測驗

《命題一》謬拉里亞（ Muller-Lyer ）圖形



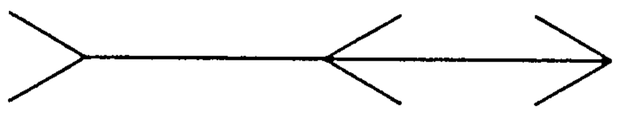

圖形解說：如上圖Ａ或Ｂ，在 ａ、ｂ線的兩端分別接上「箭頭」符號，ａ為向外之箭頭；ｂ為向內之箭頭。ａ、ｂ兩線段的長度因此「看起來」並不相等。

下列各題所提供的圖形，ａ、ｂ線段的長度不一定相同。請就六組圖形中找出ａ、ｂ長度「看起來」相等，或最接近相等的一組，並將號碼填入題前之空格中。

※ 爲避免背面圖形痕跡干擾，測試時可將畫頁微微翻起提高觀察。

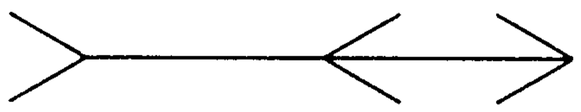
1-1 答（　）

A

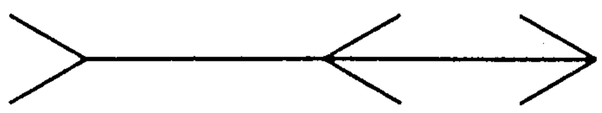


B

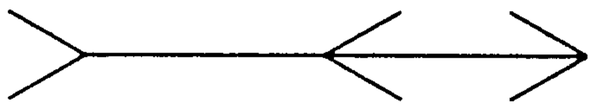
C



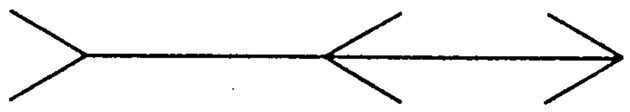
D



E

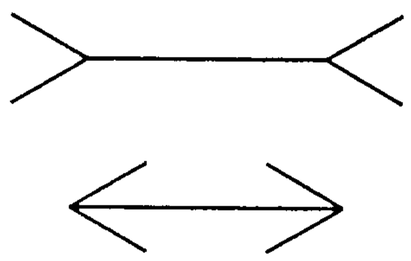


F



1-2 答（　）

A



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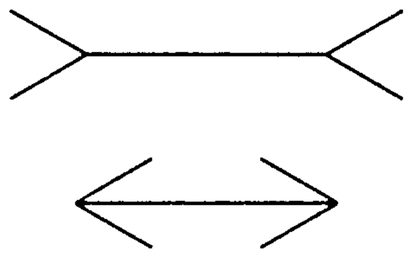

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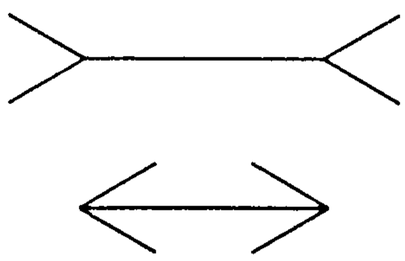

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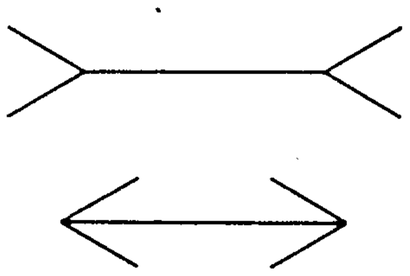

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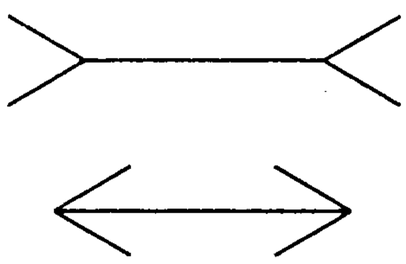

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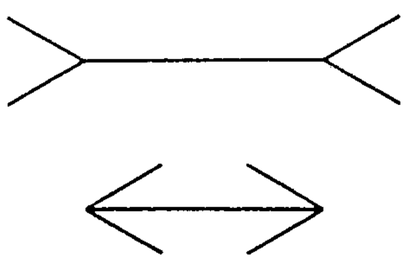
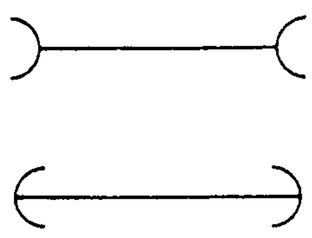


1-3 答（　　）

A



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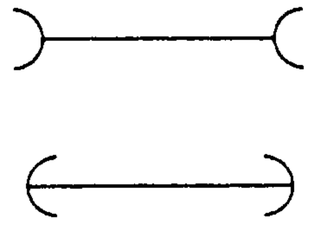

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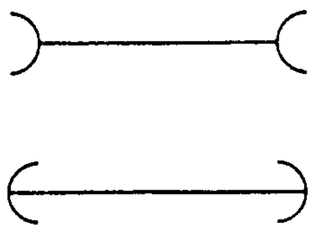

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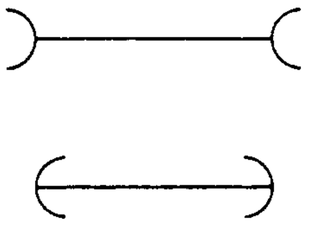

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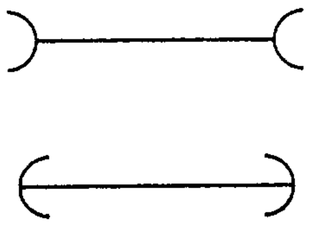

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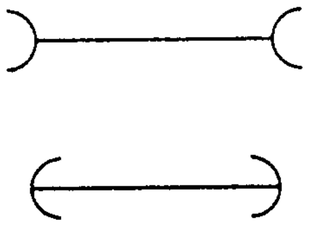
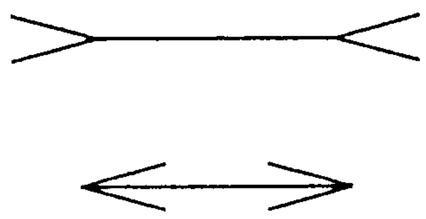


1-4 答（　　）

A



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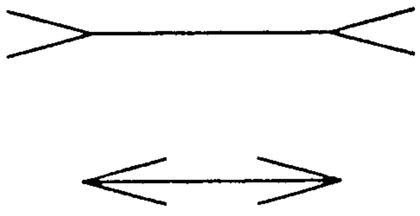

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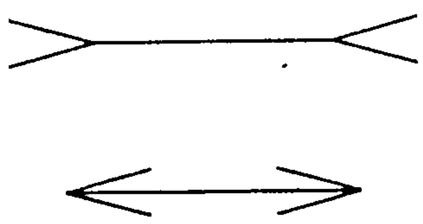

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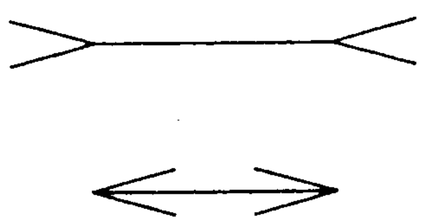

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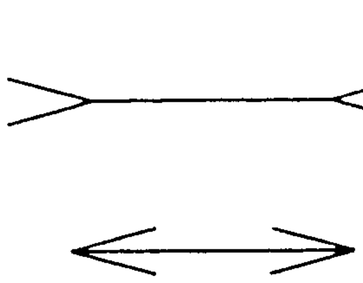

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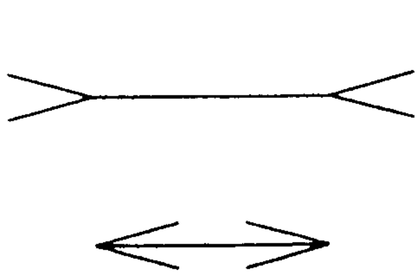
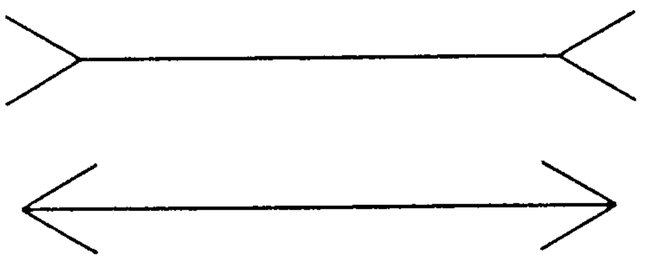


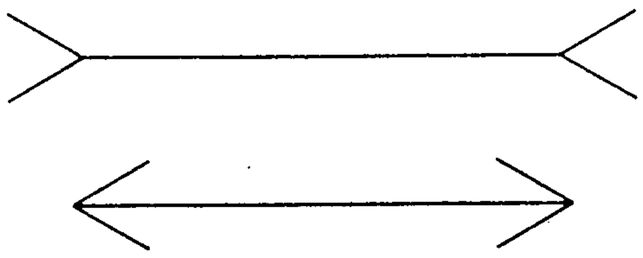
1-5 答（　　）

A

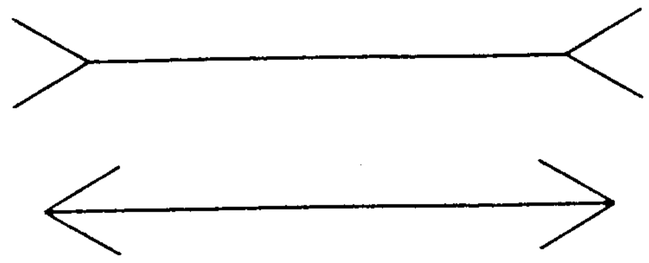


B

C



D



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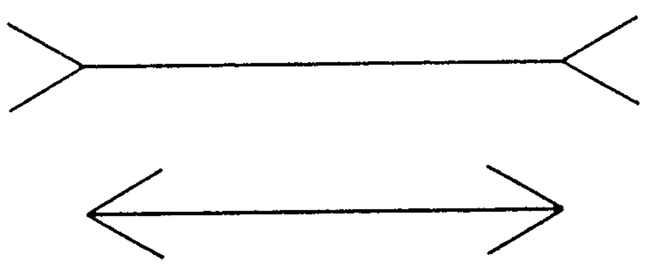

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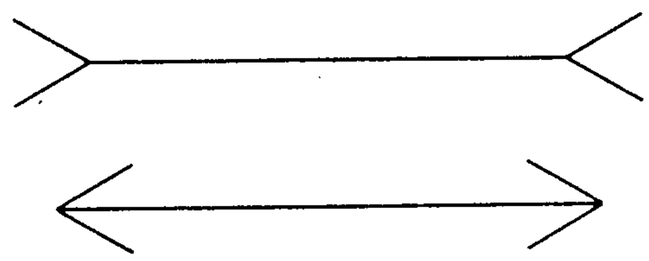

1-6 答（　　）

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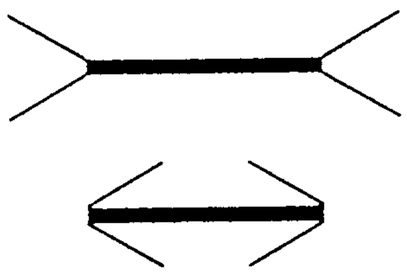

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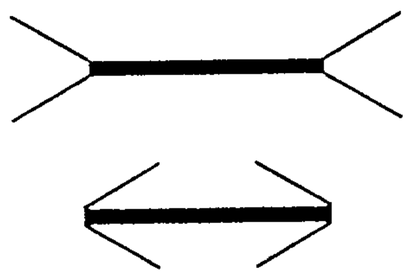

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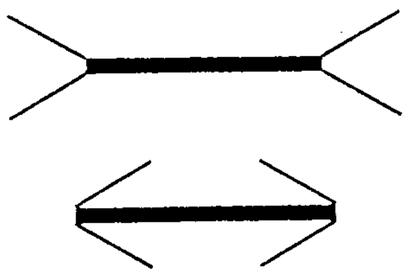

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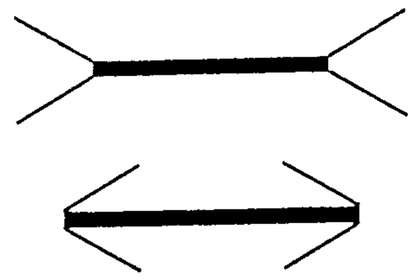

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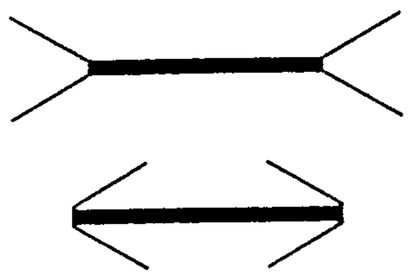
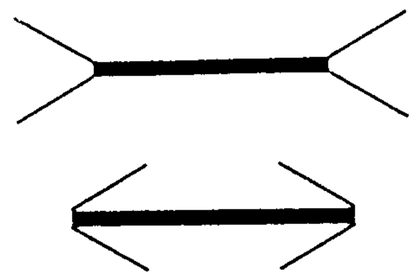
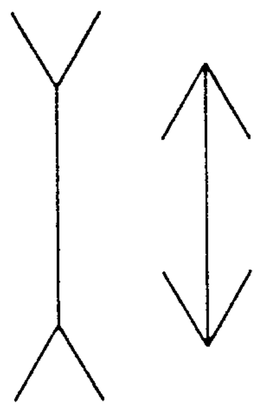


F

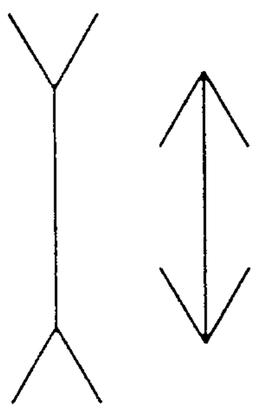


1-7 答（　）

A



B



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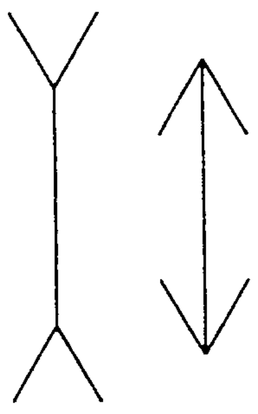
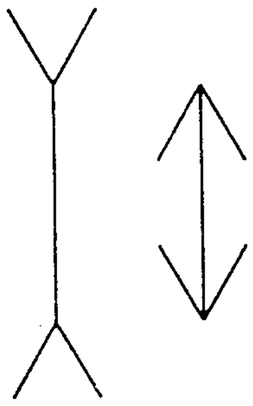


D



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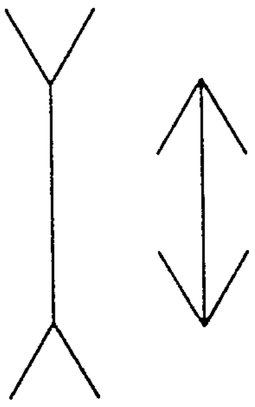
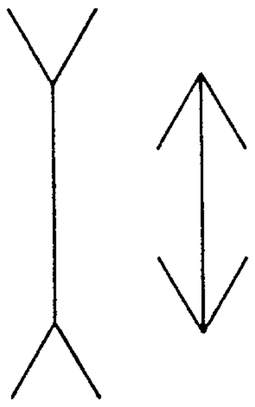
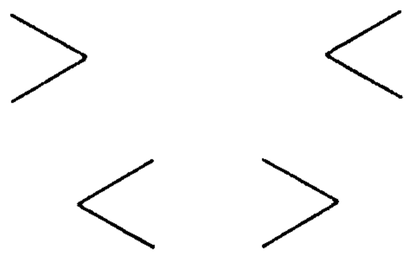


F

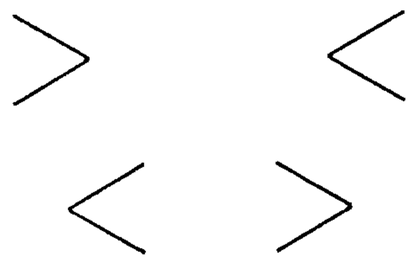


1-8 答（　）※本題之 a 、 b 線為隱形線。

A



B



C



D

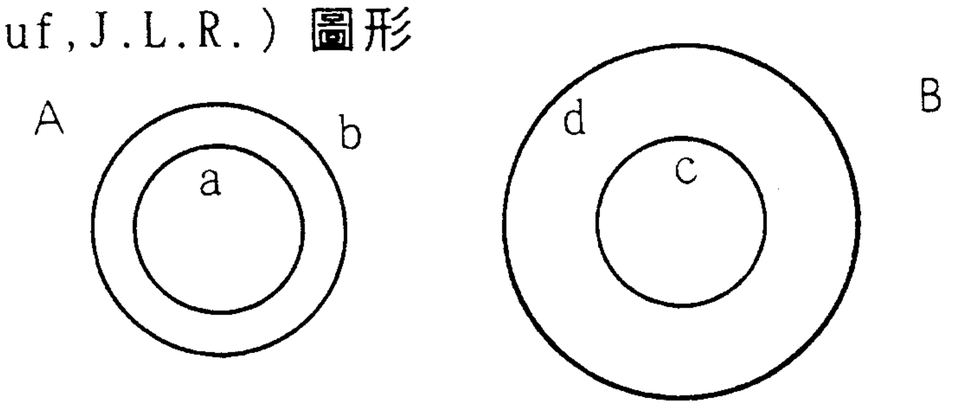


E



F

《命題二》狄爾伯夫（Delboeuf,J.L.R.）圖形

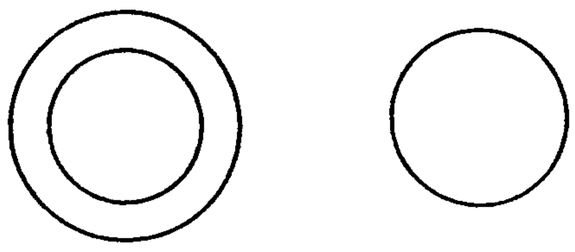



圖形解說：如上圖，a、b分別為A之內、外圓；c、d為B之內、外圓。其中a、c圓之大小相等，但「看起來」並不相等。

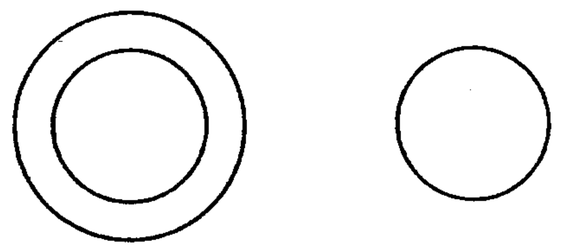
下列各題出現的圖形，a、c圓的大小不一定相同。請就六組圖形中找出a、c的大小「看起來」相等，或最接近相等的一組，並將號碼填入題前之空格中。

2-1 答（　）※本題只有a、b、c圓，沒有d圓。

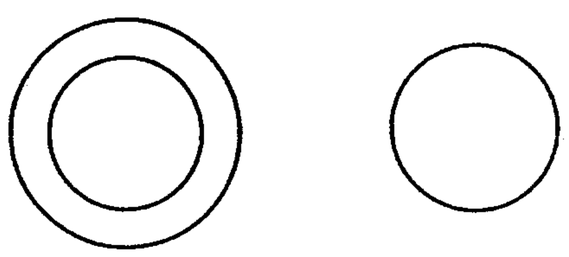
A



B



C



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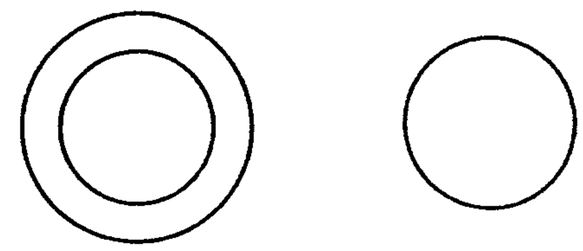

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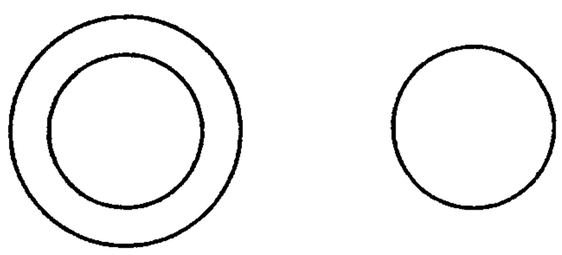

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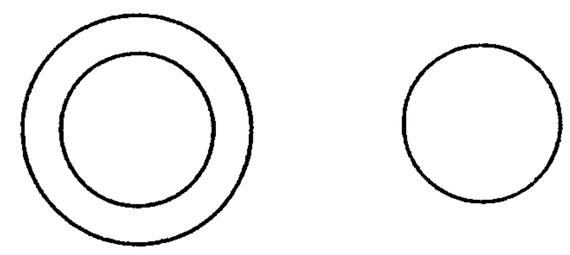
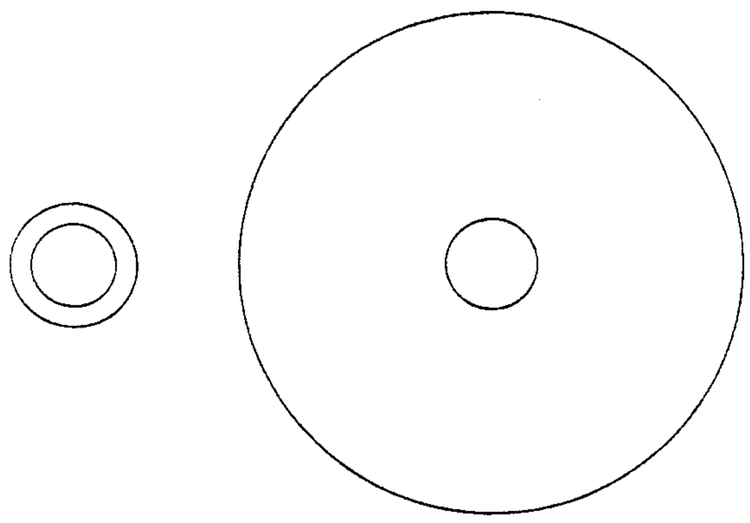
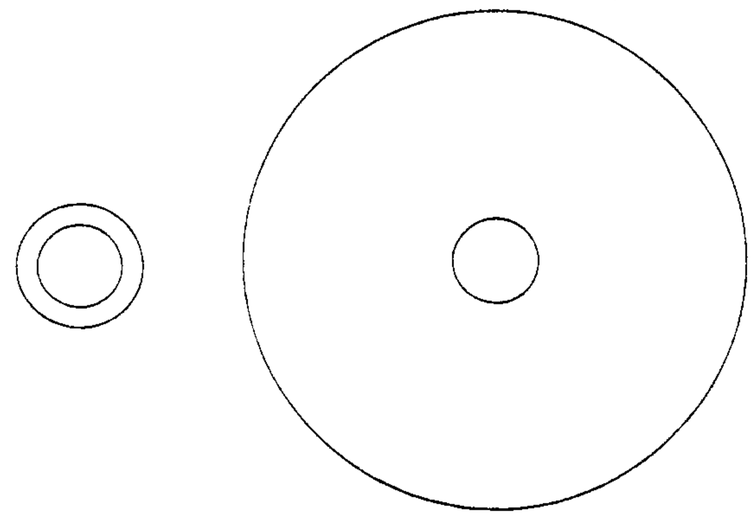


2-2 答（　）　※ 爲避免背面圖形痕跡干擾，測試時可將畫頁微微翻起提高觀察。

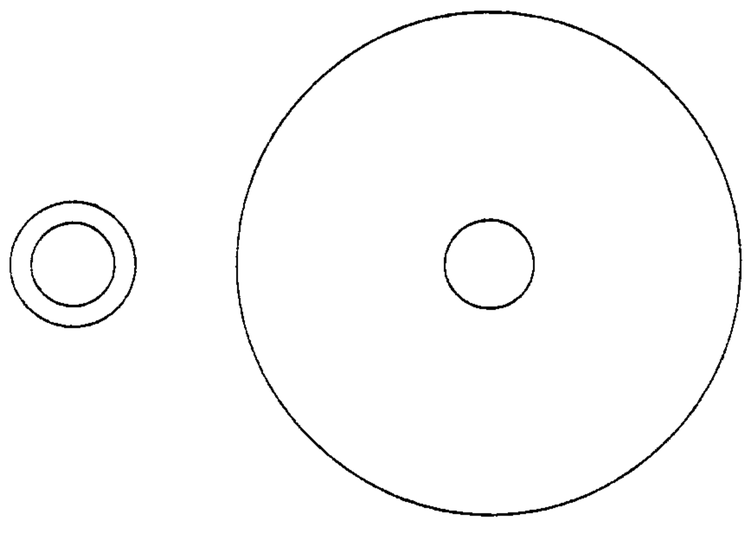
A



B



C



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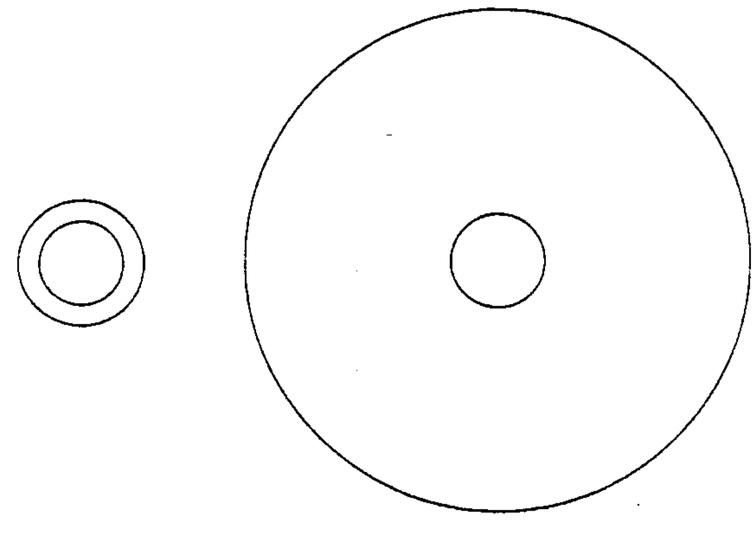
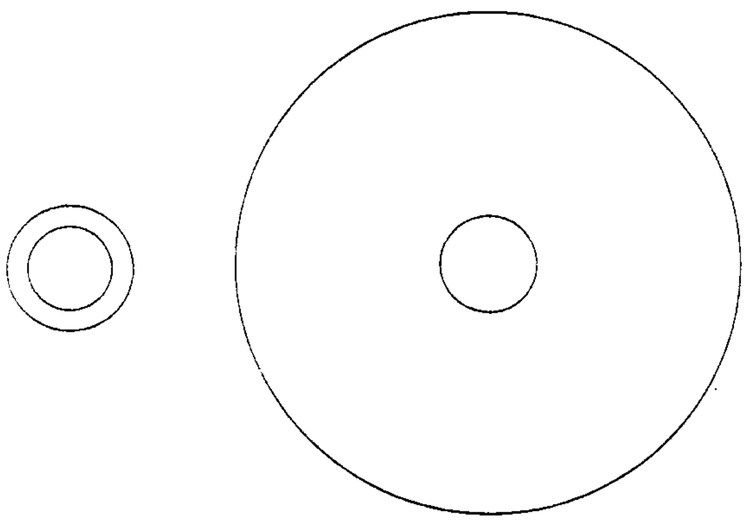


E



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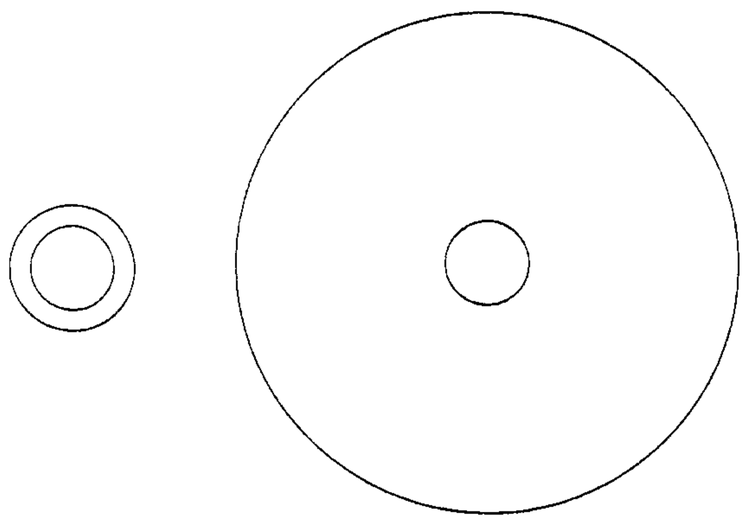
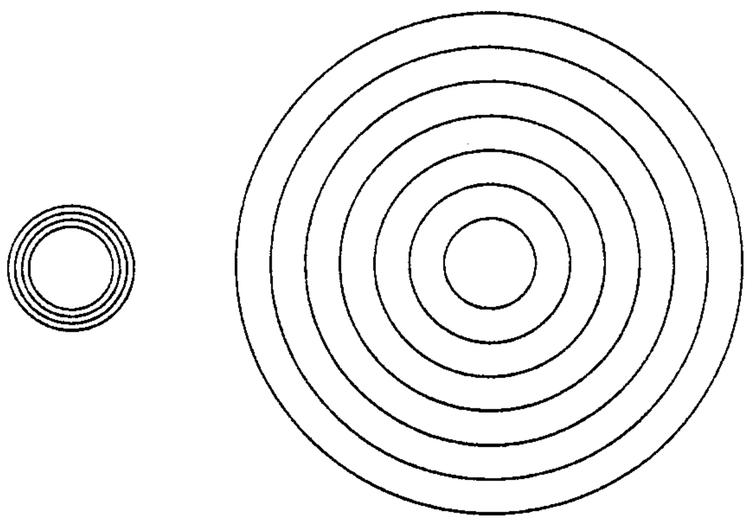
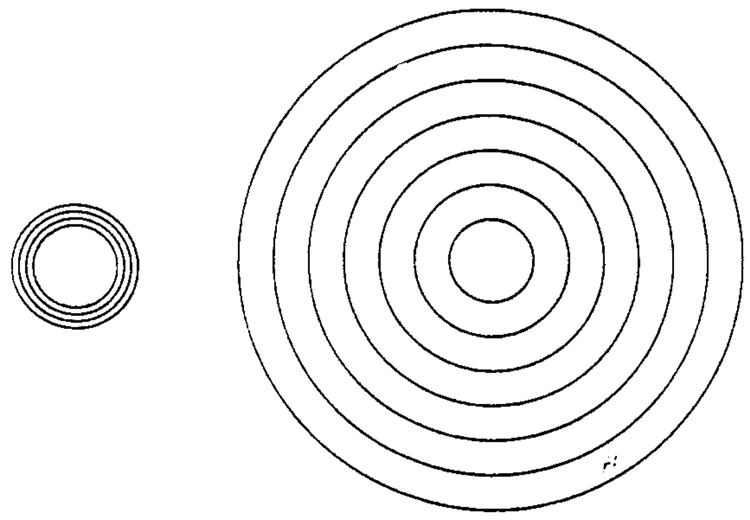


2-3 答（　）　※本題以最裏圈者為ａ、ｃ圓。

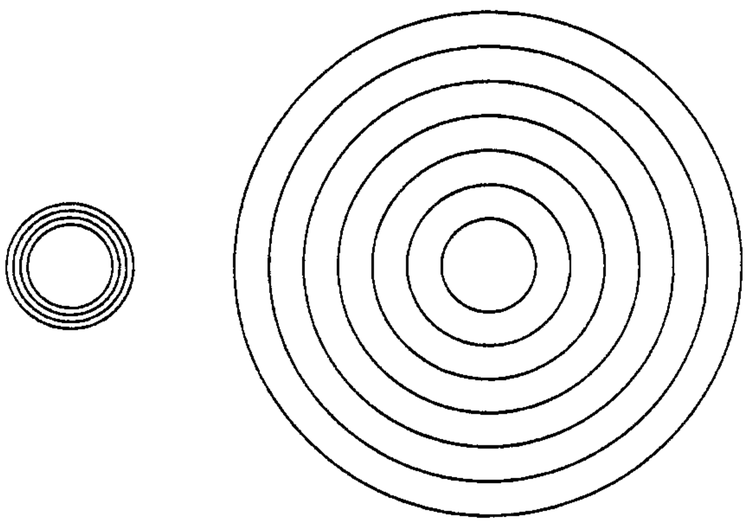
A



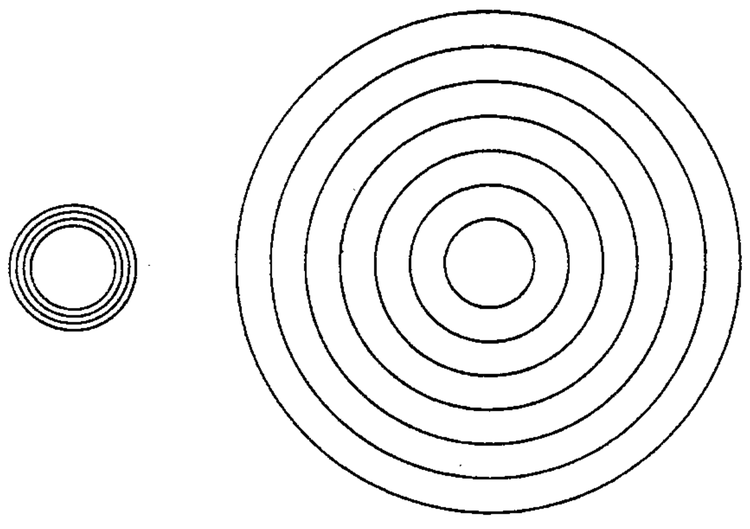
B



C



D



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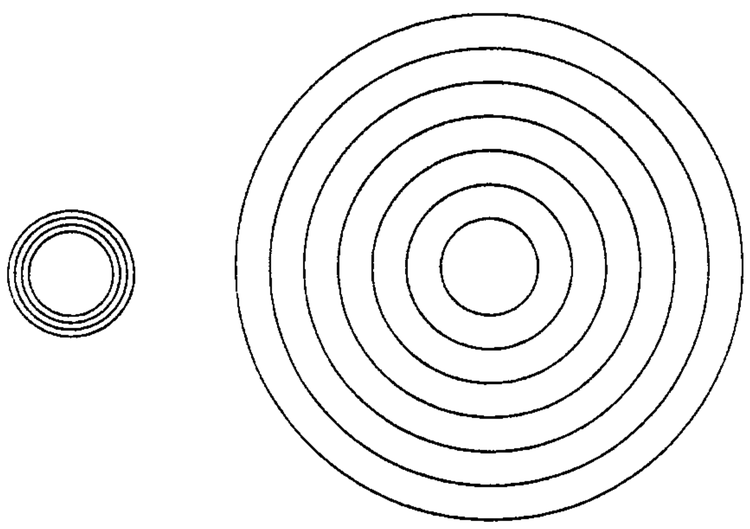
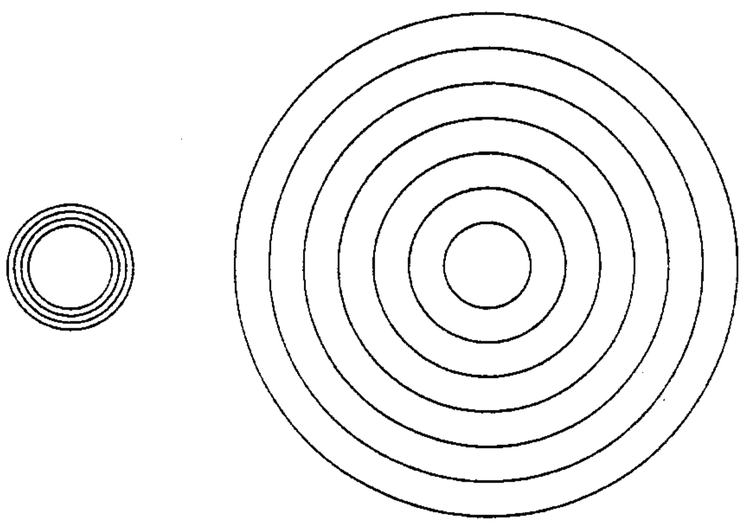
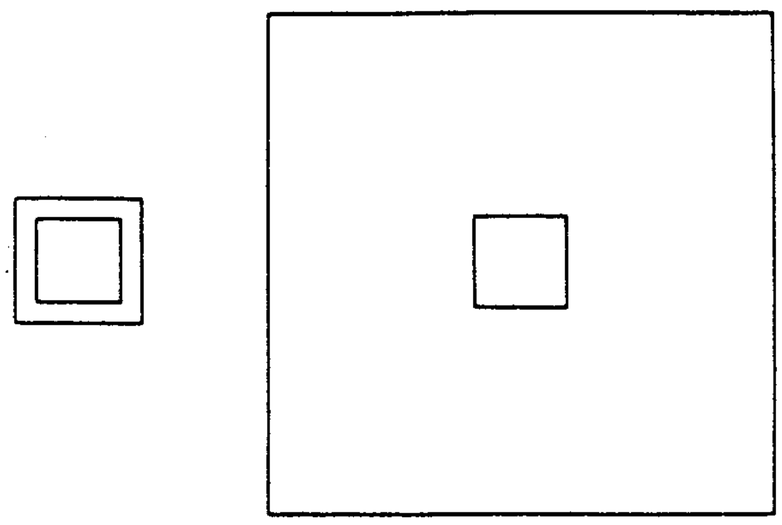


F

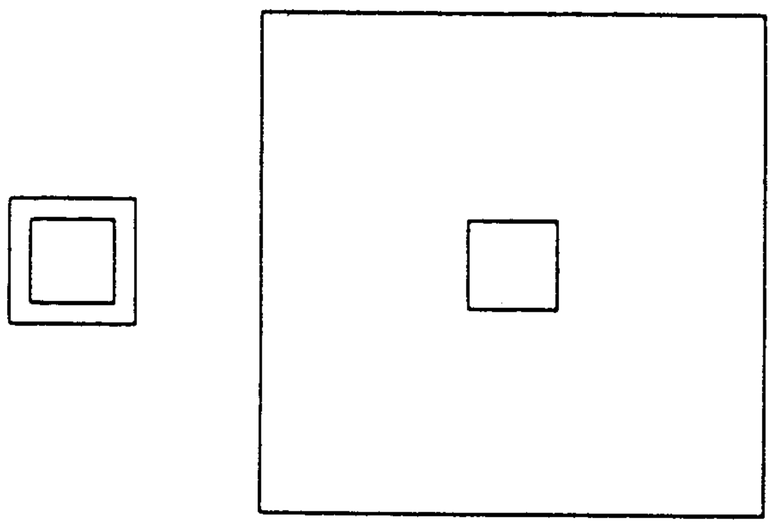


2-4 答（　）　※本題以方形代替圖形。

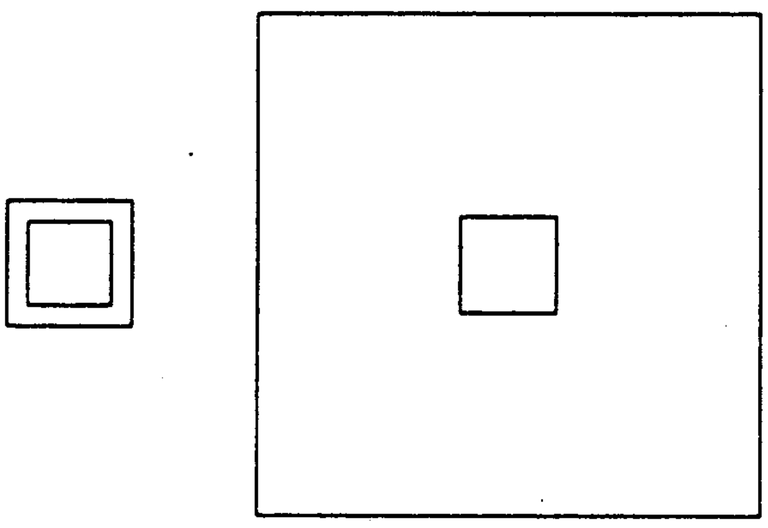
A



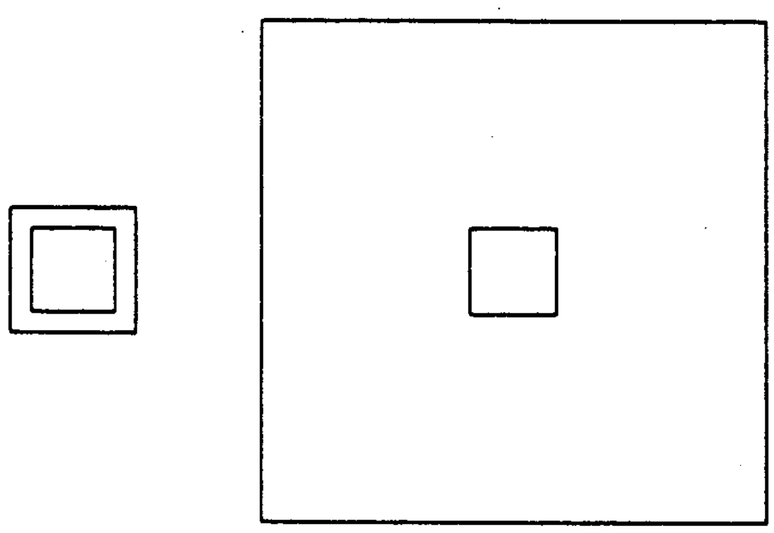
B



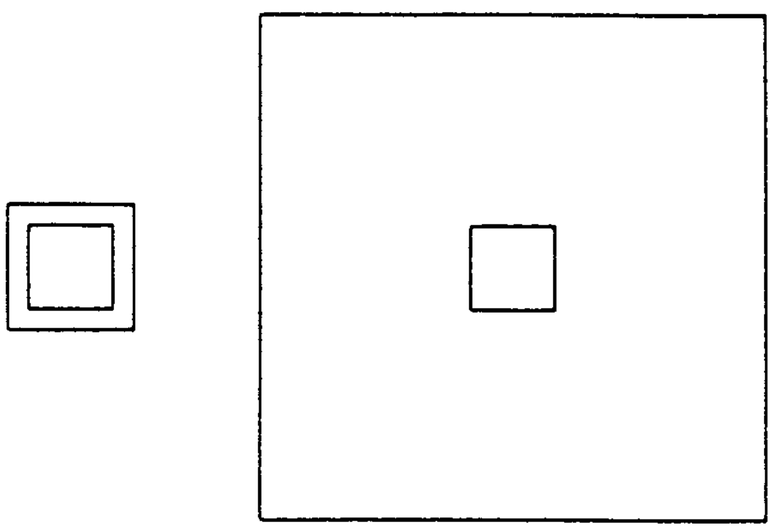
C



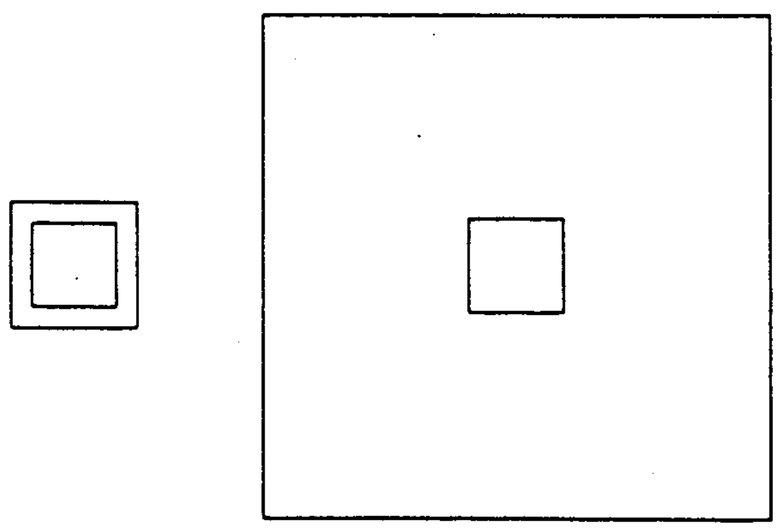
D



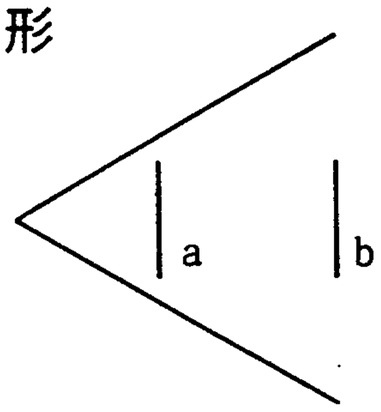
E



F



## 《命題三》彭佐（ Ponzo ）圖形

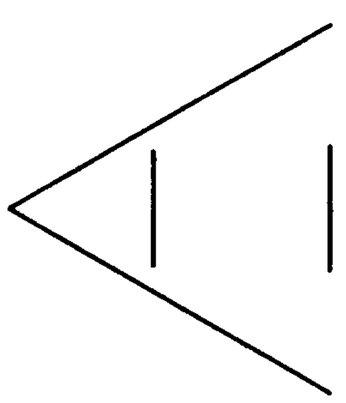



**圖形解說**：如上圖，垂直線ａ、ｂ分別處於夾角之內、外，ａ、ｂ兩線段「看起來」並不相等。

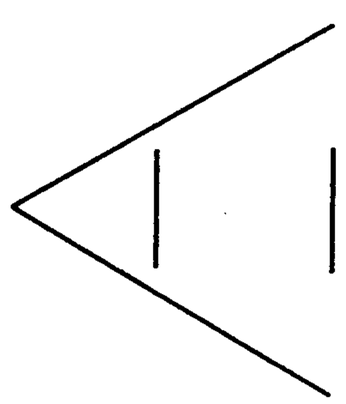
下列各題出現的圖形，其ａ、ｂ線（或圓）的大小不一定相同。請就六組圖形中找出ａ、ｂ大小（或長度），「看起來」相等或最接近相等的一組，並將號碼填入題前之空格中。

3-1 答（　　）

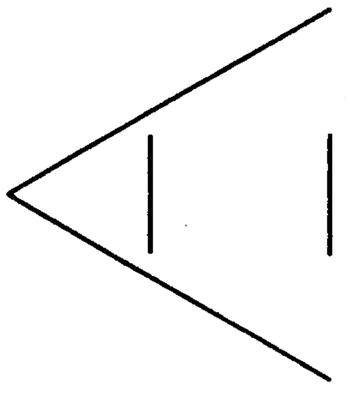
A



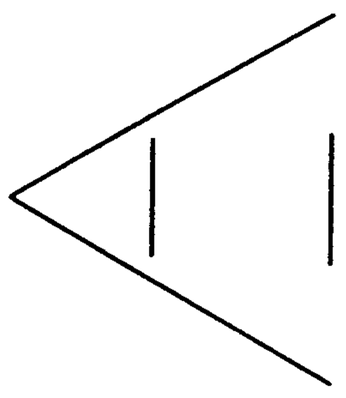
B



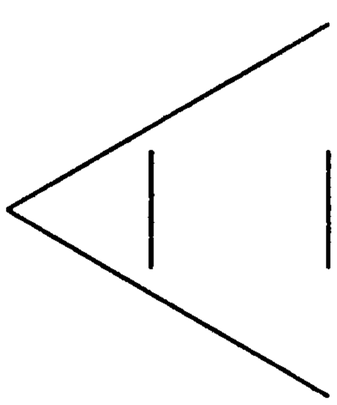
C



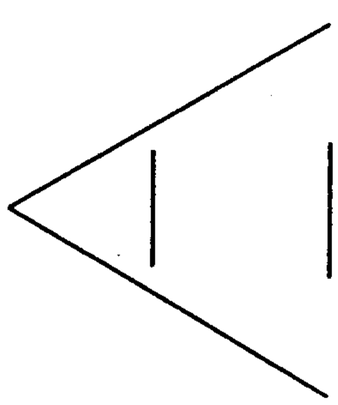
D



E

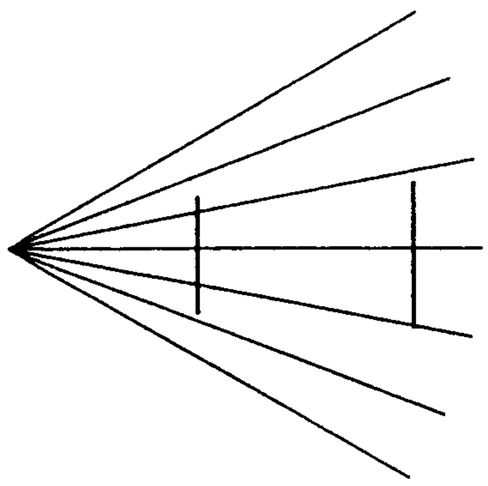


F

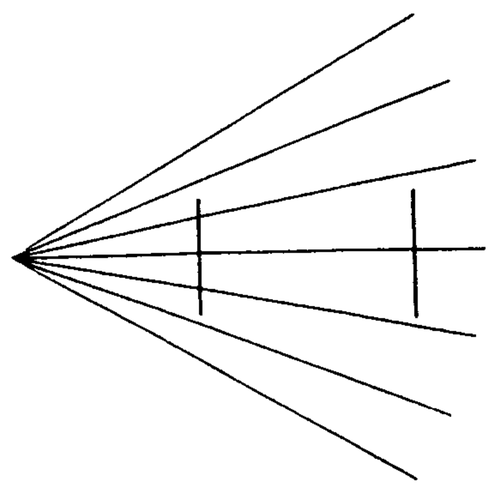


3-3 答（　　）

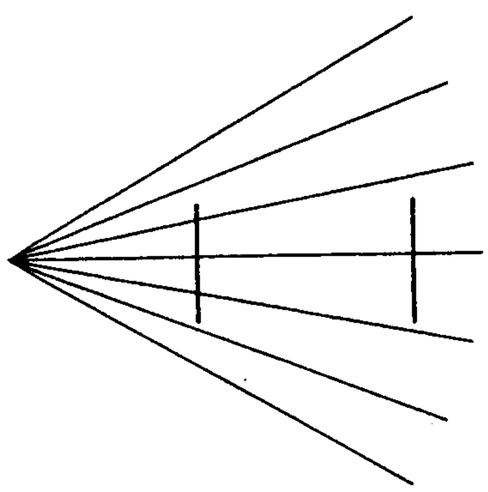
A



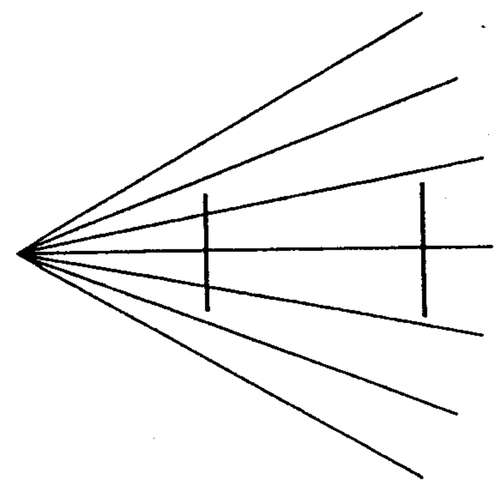
B



C



D



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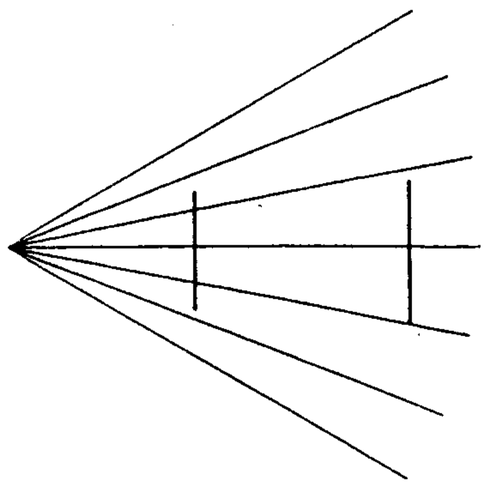
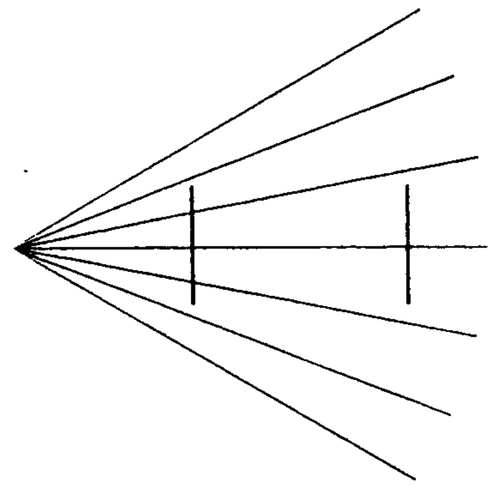
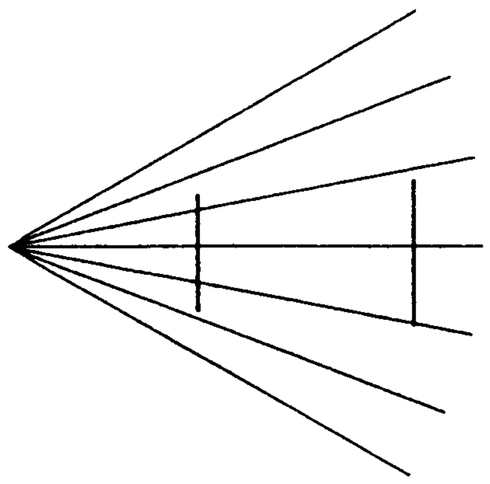


F

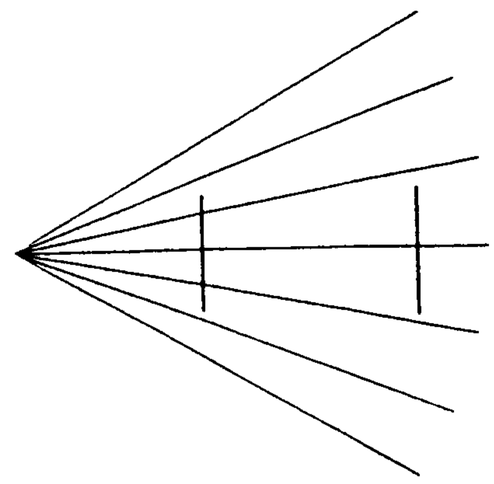


3-3 答（　　）

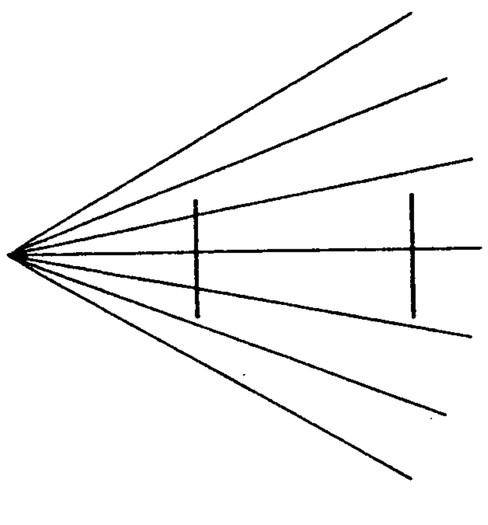
A



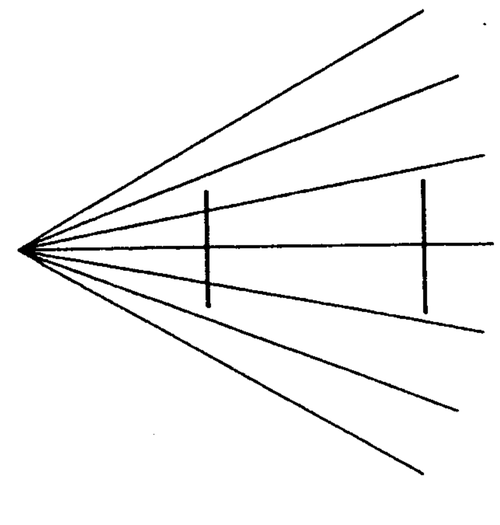
B



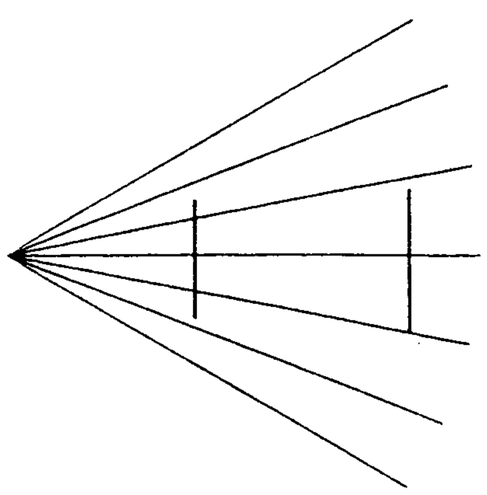
C



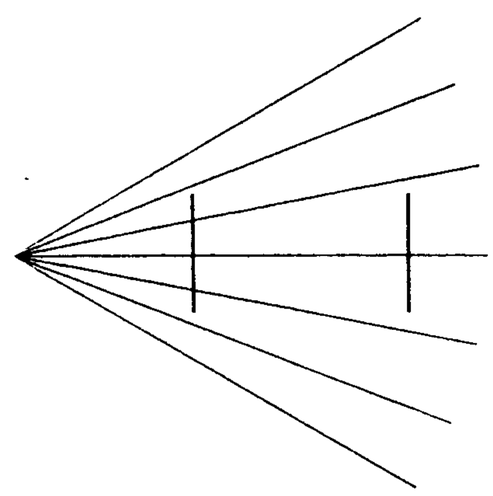
D



E



F



## 四、錯視教學反應

說明：以下 10 道命題，請依個人所知選擇適當的答案（在□中打✓）。若無適當答案，或選「其它」項，請寫出個人意見。

一、您對所謂「錯視圖形」的學習或認識程度如何？

1.□深入研究 2.□曾經學過 3.□稍有認識 4.□從未接觸 5.□不清楚

二、您學習或接觸「錯視圖形」的主要來源是？

1.□數學課 2.□美勞課 3.□專業課程領域 4.□課外讀物 5.□不知道

三、您對「錯視圖形」的感覺如何？

1.□很有趣 2.□很奇怪 3.□很困擾 4.□很無聊 5.□無感覺

四、您覺得在學習過程中，「錯視圖形」的教材內容是否充足？

1.□已經足夠 2.□尚充足 3.□可再加強 4.□亟需補充 5.□不需要

五、您認為「錯視圖形」發生的原因可能是？

1.□生理自然 2.□視覺病態 3.□個人因素 4.□圖形陷井 5.□不知道

六、您認識的「錯視圖形」包括那些種類？（可複選）

1.□幾何學錯視 2.□反轉錯視 3.□矛盾錯視 4.□運動錯視 5.□不知道

七、您對那一種「錯視圖形」最感有趣、最喜歡？

1.□幾何學錯視 2.□反轉錯視 3.□矛盾錯視 4.□運動錯視 5.□不知道

八、您覺得「錯視圖形」最常應用在何種場合？

1.□繪畫創作 2.□圖案設計 3.□服裝 4.□心理測驗 5.□其它_____

九、您是否看過或擁有「錯視圖形」的專業書籍？

1.□擁有很多 2.□看過很多 3.□略曾看過 4.□不曾看過 5.□沒有印象

十、您對本卷前項「錯視圖形測驗」的感覺如何？

1.□判斷精確 2.□尚能判斷 3.□不易判斷 4.□無法判斷 5.□其它_____

《謝謝合作》