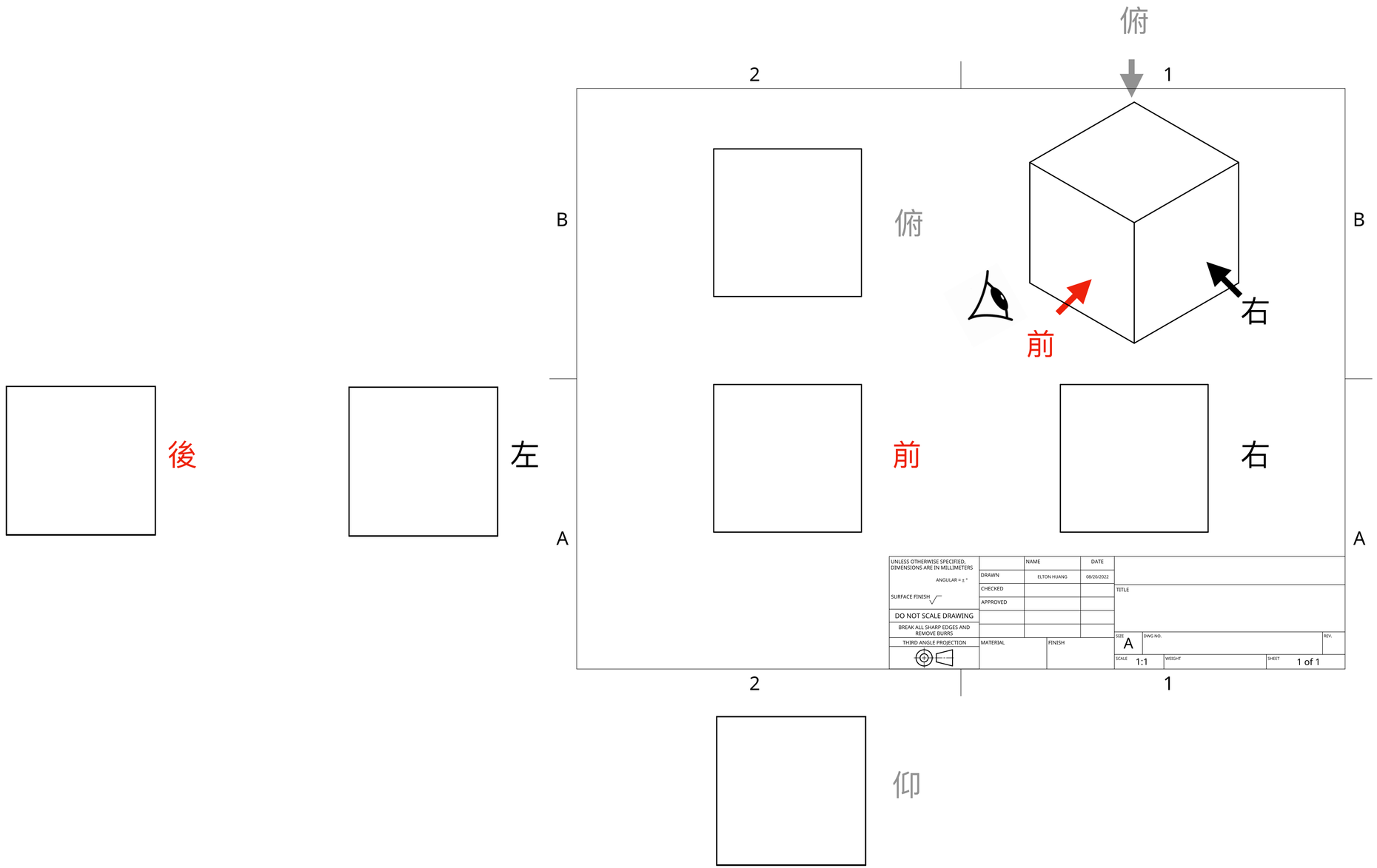
工程視圖 (三視圖)

扶住比薩斜塔

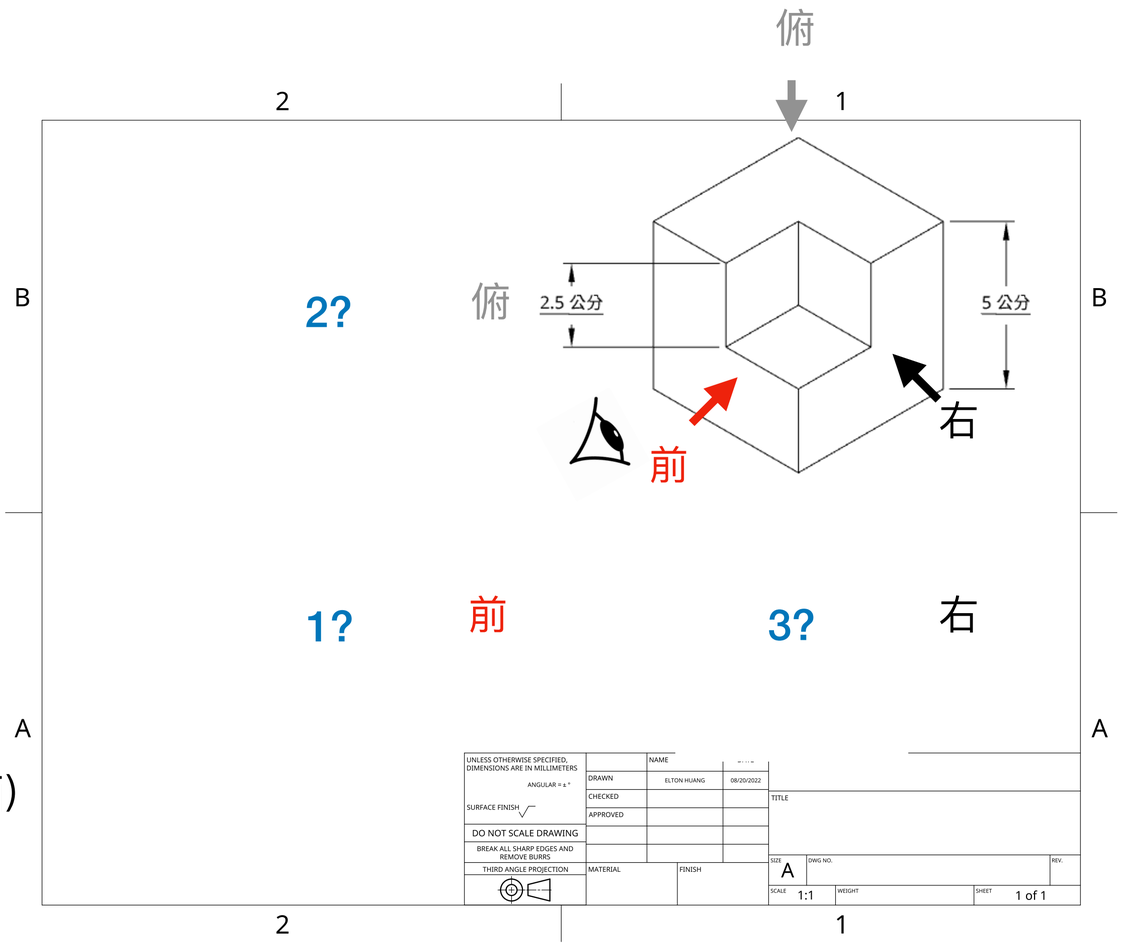
Honda CR-V Commercial

Oscars Commercial: Illusion with Neil Patrick Harris

展開圖



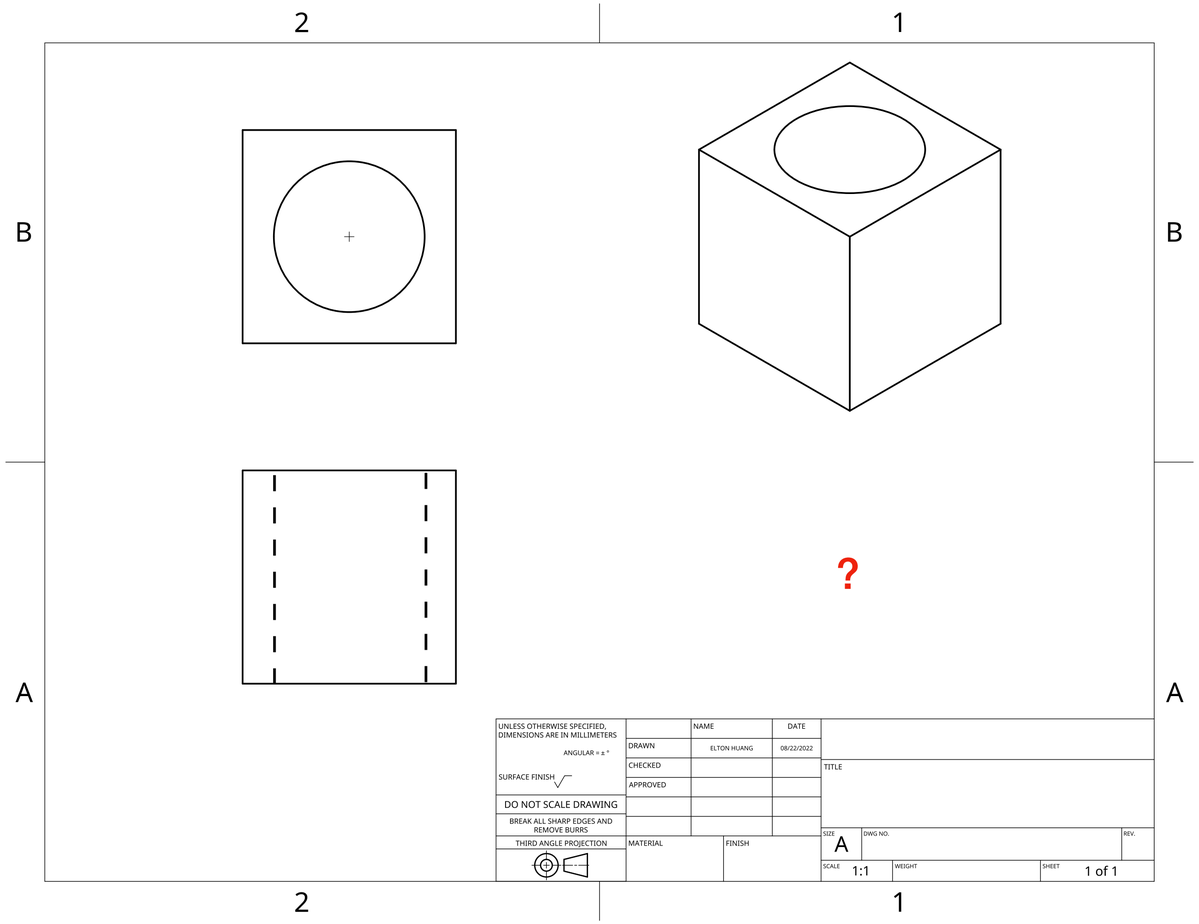
展開圖



(與右視對稱於分開觀察者與物件的平面)

(與右視對稱貫穿過觀察者與物件平面)

6? 仰 (與俯視對稱於水平面)

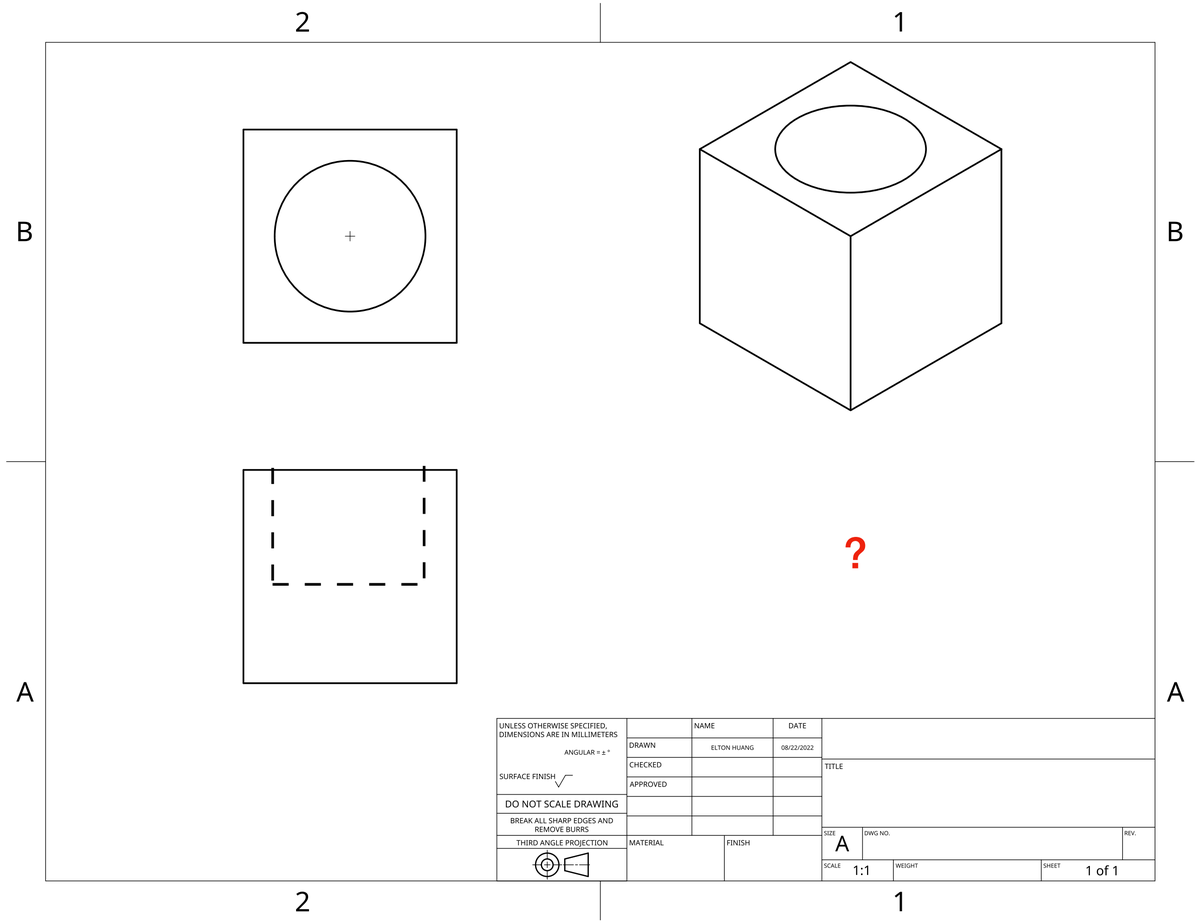


UNLESS OTHERWISE SPECIFIED, DIMENSIONS ARE IN MILLIMETERS		NAME	DATE
ANGULAR = ± °	DRAWN	ELTON HUANG	08/22/2022
SURFACE FINISH	CHECKED		
	APPROVED		
DO NOT SCALE DRAWING			
BREAK ALL SHARP EDGES AND REMOVE BURRS			
THIRD ANGLE PROJECTION	MATERIAL	FINISH	

TITLE

SIZE	DWG NO.	REV.
A		

SCALE	WEIGHT	SHEET
1:1		1 of 1



UNLESS OTHERWISE SPECIFIED, DIMENSIONS ARE IN MILLIMETERS		NAME	DATE
ANGULAR = ± °	DRAWN	ELTON HUANG	08/22/2022
SURFACE FINISH	CHECKED		
	APPROVED		
DO NOT SCALE DRAWING			
BREAK ALL SHARP EDGES AND REMOVE BURRS			
THIRD ANGLE PROJECTION	MATERIAL	FINISH	

TITLE

SIZE	DWG NO.	REV.
A		

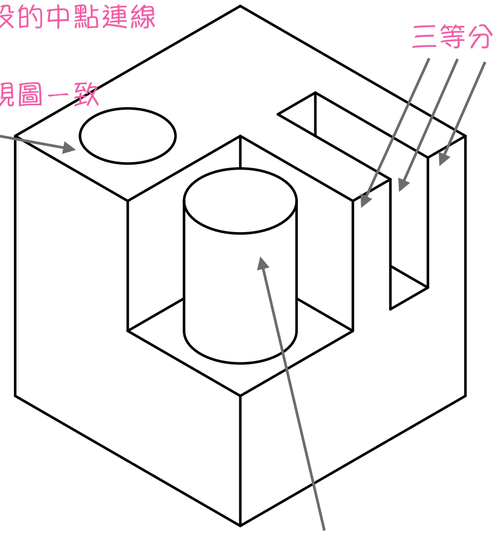
SCALE	WEIGHT	SHEET
1:1		1 of 1

學習起點行為測試

2 1

B B

這個洞口的圓和隔壁那個一樣大
~~兩個圓的圓心連線和立方體的邊平行/垂直~~
這個圓的圓心和它前面那個線段的中點連線
也和立方體的邊平行/垂
洞多深可自己決定，只要三個視圖一致



ϕ 1.5 公分
(R 0.75 公分)
圓心在它下面
那個正方形的正中間

1?

2?

3?

A A

OTHERWISE SPECIFIED, DIMENSIONS ARE IN MILLIMETERS			
ANGULAR = ± °	DRAWN	ELTON HUANG	09/09/2022
SURFACE FINISH √	CHECKED		
	APPROVED		
DO NOT SCALE DRAWING			
BREAK ALL SHARP EDGES AND REMOVE BURRS			
THIRD ANGLE PROJECTION	MATERIAL	FINISH	

TITLE

SIZE A | DWG NO. | REV.

2 1

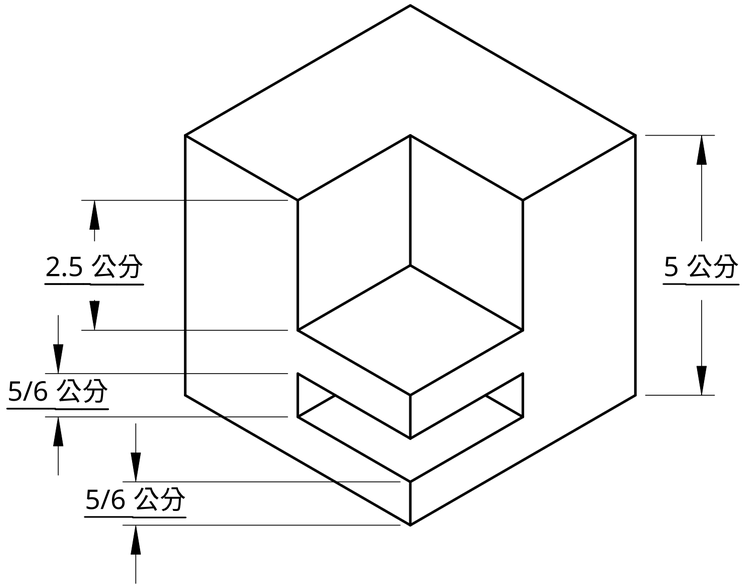
B B

A A

2?

1?

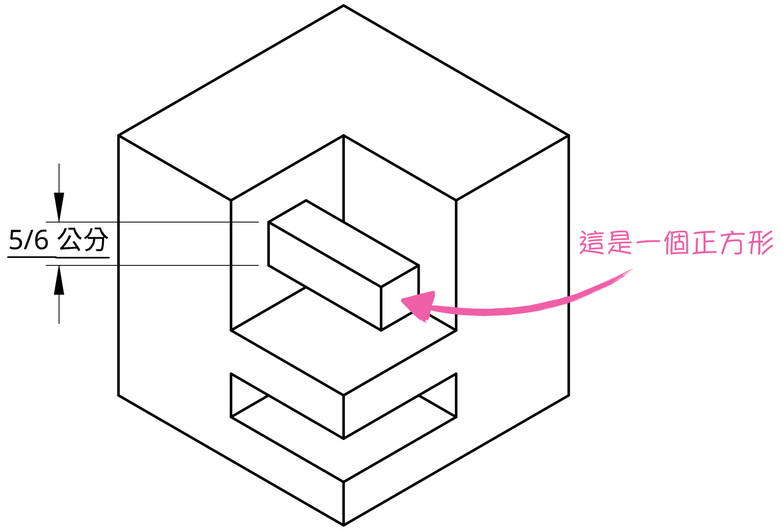
3?



UNLESS OTHERWISE SPECIFIED, DIMENSIONS ARE IN MILLIMETERS		NAME	DATE
ANGULAR = ± °	DRAWN	ELTON HUANG	09/09/2022
SURFACE FINISH	CHECKED		
	APPROVED		
DO NOT SCALE DRAWING			
BREAK ALL SHARP EDGES AND REMOVE BURRS			
THIRD ANGLE PROJECTION	MATERIAL	FINISH	

TITLE		
SIZE A	DWG NO.	REV.
SCALE 1:1	WEIGHT	SHEET 1 of 1

2 1



1?

2?

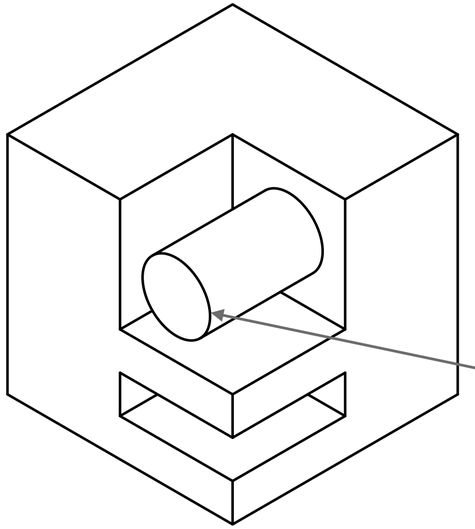
3?

UNLESS OTHERWISE SPECIFIED, DIMENSIONS ARE IN MILLIMETERS		NAME	DATE
ANGULAR = ± °	DRAWN	ELTON HUANG	09/09/2022
SURFACE FINISH	CHECKED		
DO NOT SCALE DRAWING	APPROVED		
BREAK ALL SHARP EDGES AND REMOVE BURRS			
THIRD ANGLE PROJECTION	MATERIAL	FINISH	

TITLE		
SIZE A	DWG NO.	REV.
SCALE 1:1	WEIGHT	SHEET 1 of 1

2 1

B B



ϕ 1.5 公分
(R 0.75 公分)
圓心在它後面
那個正方形的正中間

1?

2?

3?

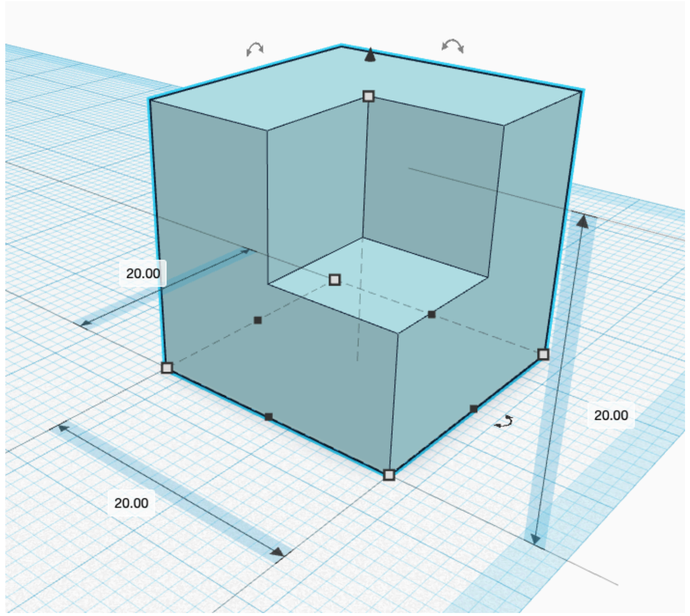
A A

UNLESS OTHERWISE SPECIFIED, DIMENSIONS ARE IN MILLIMETERS ANGULAR = ± ° SURFACE FINISH		NAME	DATE
	DRAWN	ELTON HUANG	09/09/2022
	CHECKED		
	APPROVED		
DO NOT SCALE DRAWING			
BREAK ALL SHARP EDGES AND REMOVE BURRS			
THIRD ANGLE PROJECTION	MATERIAL	FINISH	

TITLE		
SIZE A	DWG NO.	REV.
SCALE 1:1	WEIGHT	SHEET 1 of 1

2 1

在二維平面呈現三維立體物件的 3 種方式



(2 點) 透視圖

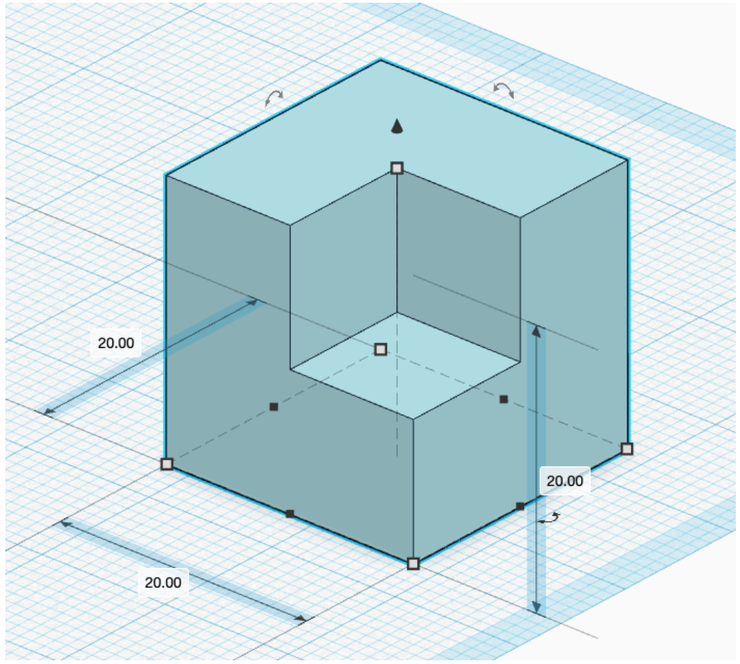
和真實世界人的視覺成像感受
(視覺經驗)一致

物體原來在 3D 空間的平行線
延伸後消失在遠處的某一點：
1、2、3 點透視

正視圖、立體圖

和數學立體空間幾何原則一致

物體原來在 3D 空間平行的線
在 2D 圖面上仍然平行



(同一個物件從上面看)

三視圖

三個視角所看到的成像
決定該物件確切的立體形狀
(對立面才看得到的線畫成虛線)

(同一個物件從前面看) (同一個物件從右面看)

cm = 公分

mm = 公釐/毫米

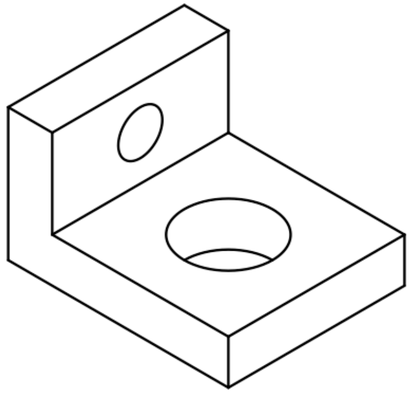
三視圖的概念：從空間直角座標三個軸向檢視一個物體，所得到的三個視面物體的平面描述，可以構成這個物件的立體圖像
(可從透視圖切換至正投影立體圖看看)

(Tinkercad 和 Onshape 都有 iPad 版，平板的觸控操作和桌機的滑鼠操作有些不同，搭配觸控筆有不一樣的操作方式，有興趣的同學可以試試)

2 1

B B

2?



1? 3?

A A

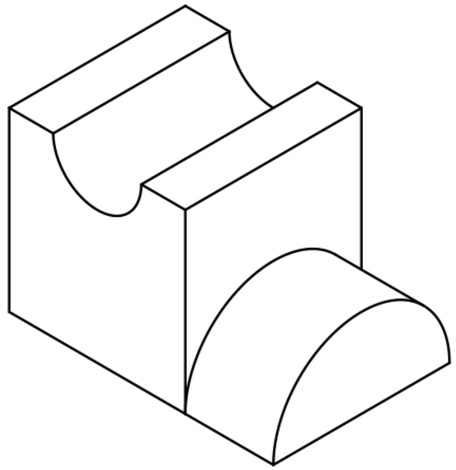
UNLESS OTHERWISE SPECIFIED, DIMENSIONS ARE IN MILLIMETERS ANGULAR = ± ° SURFACE FINISH		NAME	DATE
	DRAWN	ELTON HUANG	09/11/2020
	CHECKED		
	APPROVED		
DO NOT SCALE DRAWING			
BREAK ALL SHARP EDGES AND REMOVE BURRS			
THIRD ANGLE PROJECTION	MATERIAL	FINISH	

TITLE	Tinkercad 製圖入門 作業練習	
SIZE A	DWG NO. 樣件 1	REV.
SCALE 1:1	WEIGHT	SHEET 1 of 1

2 1

2 1

B B



2?

1?

3?

A A

UNLESS OTHERWISE SPECIFIED, DIMENSIONS ARE IN MILLIMETERS		NAME	DATE
ANGULAR = ± °	DRAWN	ELTON HUANG	09/11/2020
SURFACE FINISH √	CHECKED		
	APPROVED		
DO NOT SCALE DRAWING			
BREAK ALL SHARP EDGES AND REMOVE BURRS			
THIRD ANGLE PROJECTION	MATERIAL	FINISH	

TITLE: Tinkercad 製圖入門 作業練習

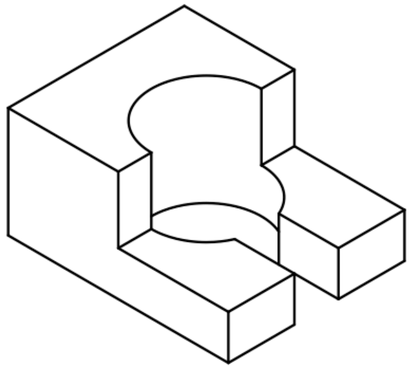
SIZE	DWG NO.	REV.
A	樣件 2	

SCALE	WEIGHT	SHEET
1:1		1 of 1

2 1

2 1

B B



2?

1?

3?

A A

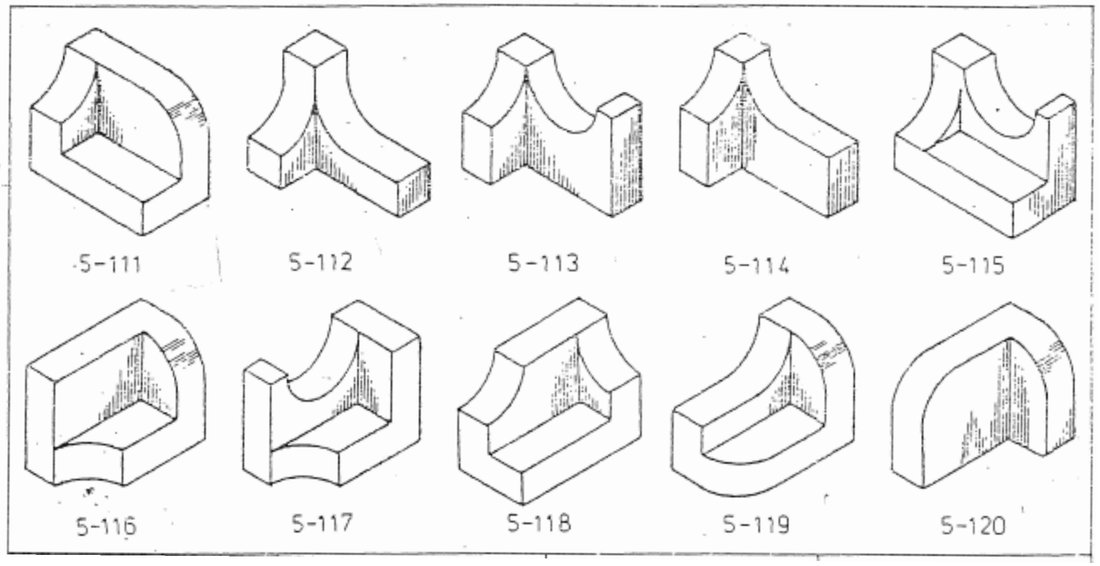
UNLESS OTHERWISE SPECIFIED, DIMENSIONS ARE IN MILLIMETERS		NAME	DATE
ANGULAR = ± °	DRAWN	ELTON HUANG	09/11/2020
SURFACE FINISH √	CHECKED		
	APPROVED		
DO NOT SCALE DRAWING			
BREAK ALL SHARP EDGES AND REMOVE BURRS			
THIRD ANGLE PROJECTION	MATERIAL	FINISH	

TITLE: Tinkercad 製圖入門 作業練習

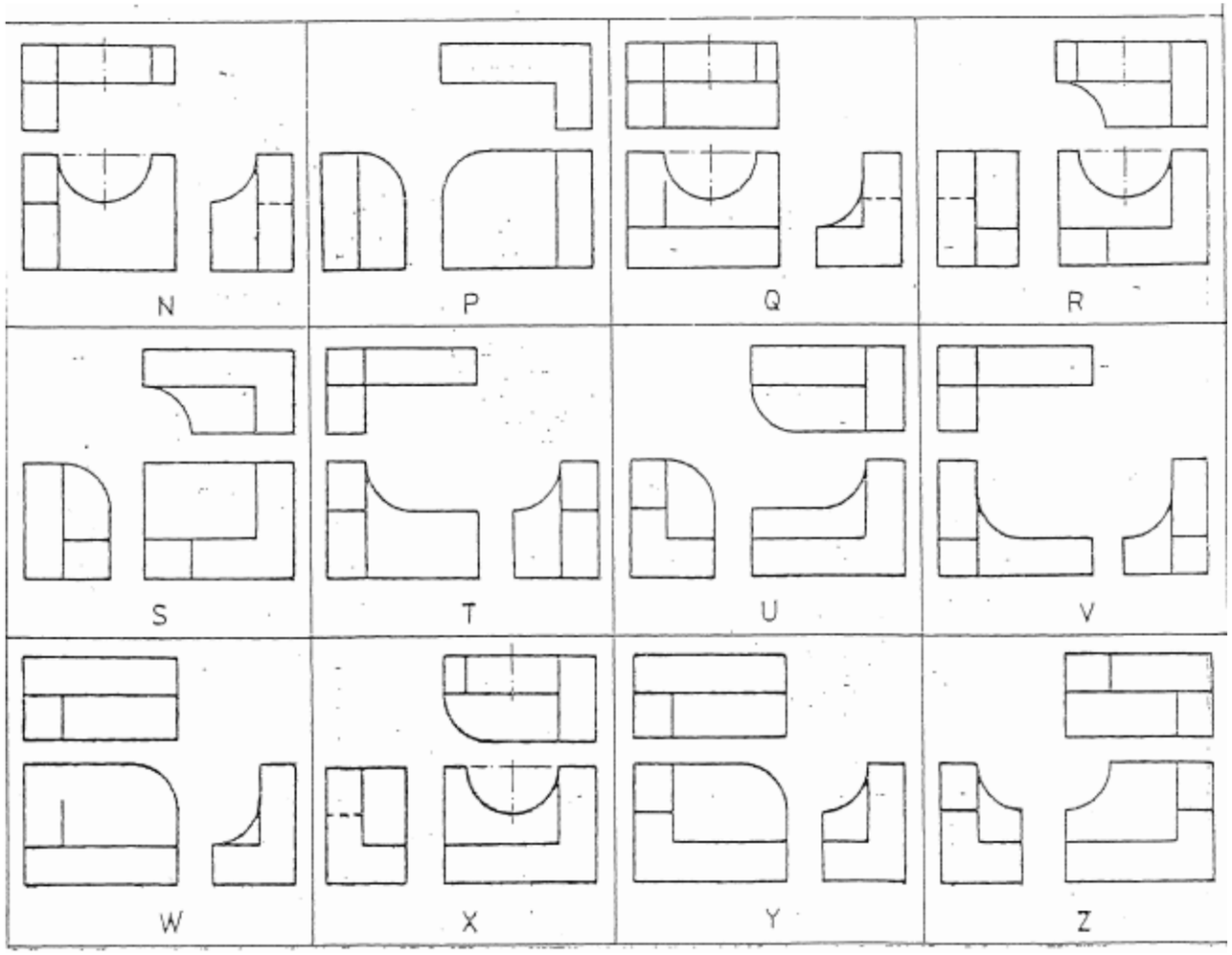
SIZE	DWG NO.	REV.
A	樣件 3	

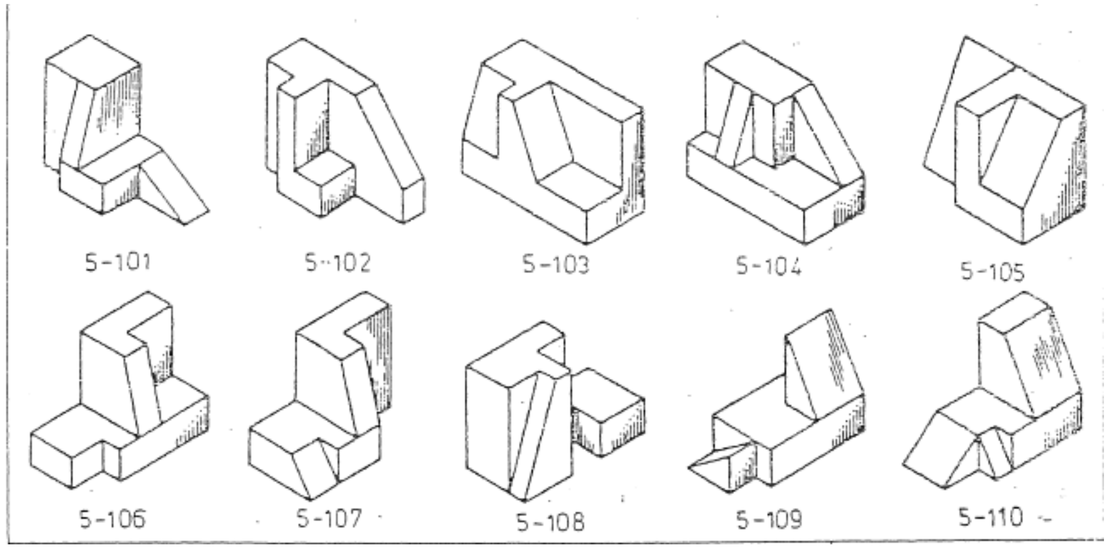
SCALE	WEIGHT	SHEET
1:1		1 of 1

2 1

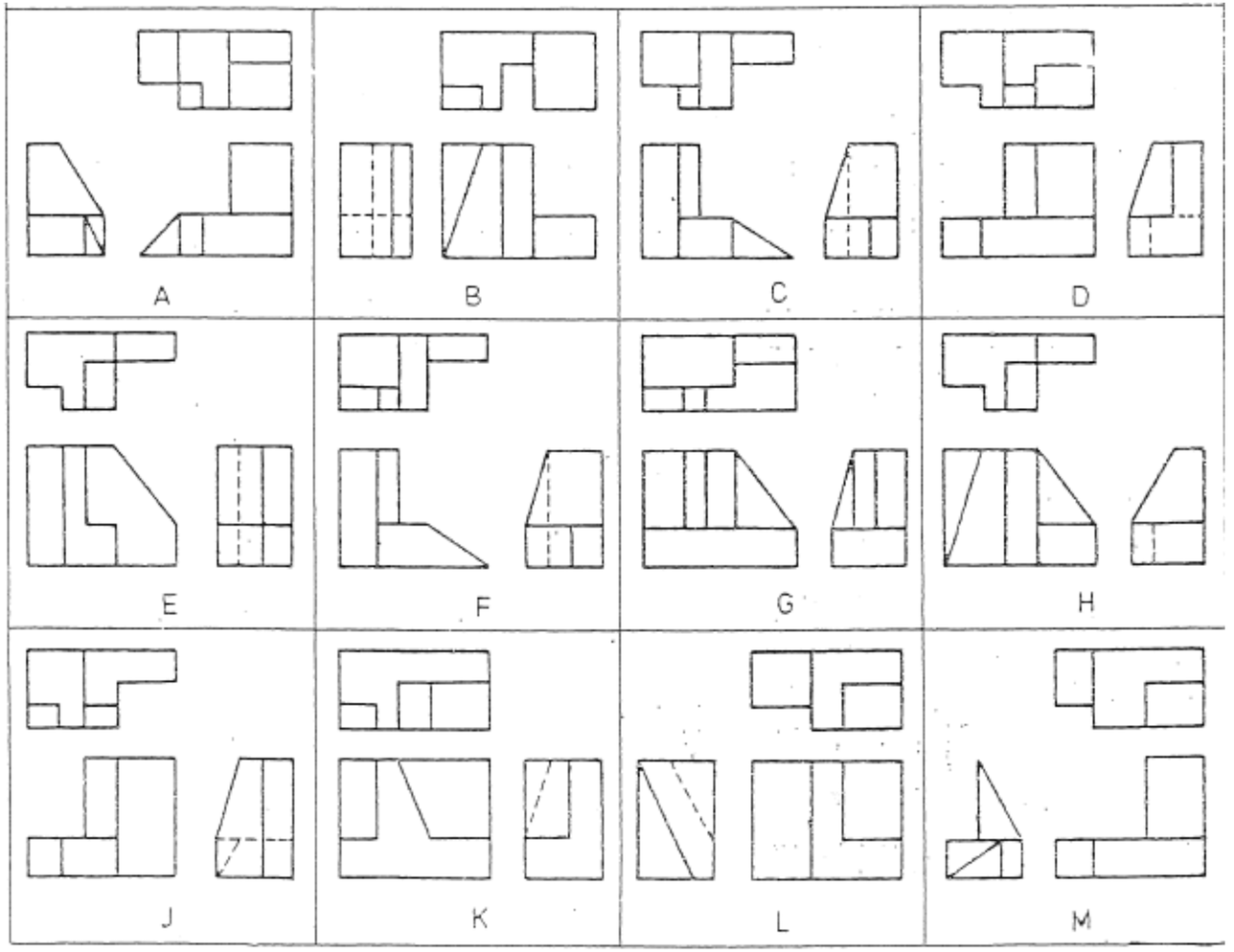

5-111
5-112
5-113
5-114
5-115
5-116
5-117
5-118
5-119
5-120

練習 1


N
P
Q
R
S
T
U
V
W
X
Y
Z


5-101
5-102
5-103
5-104
5-105
5-106
5-107
5-108
5-109
5-110

練習 2


A
B
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H
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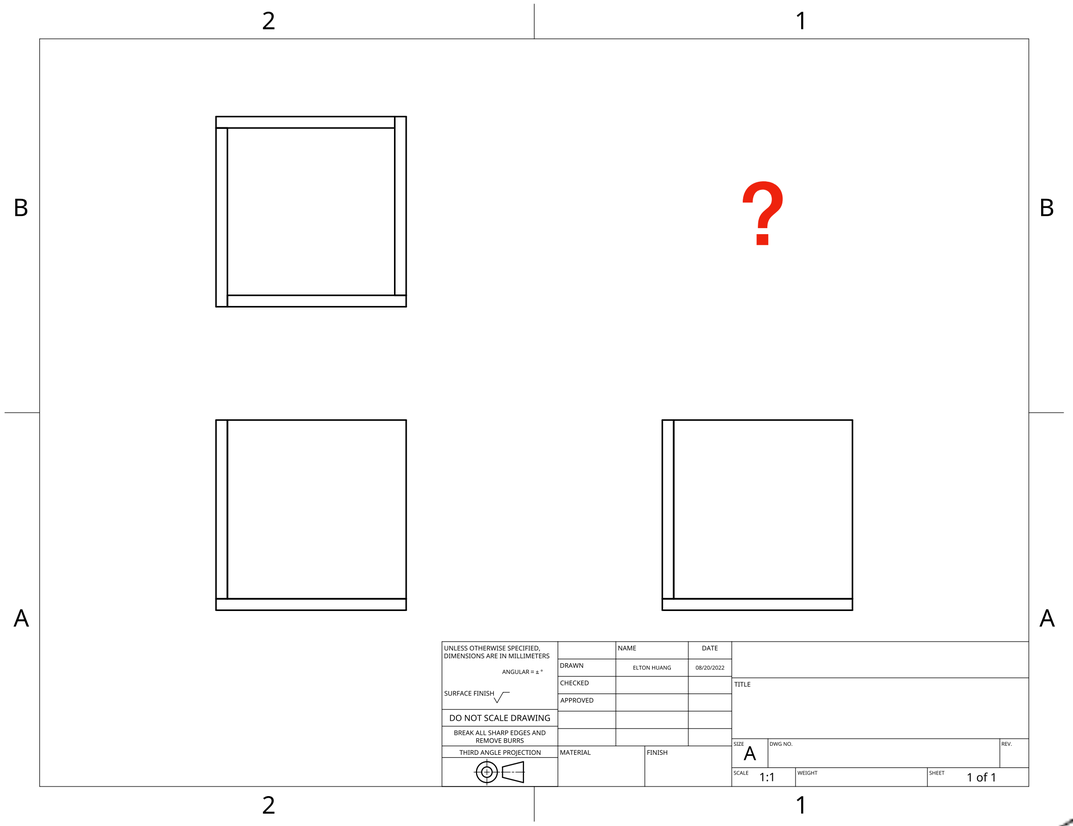
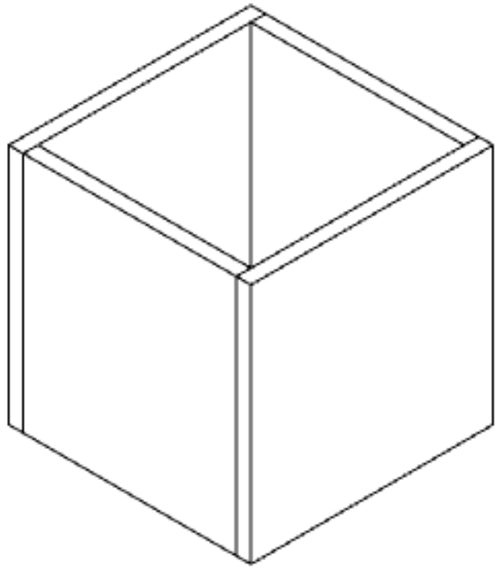
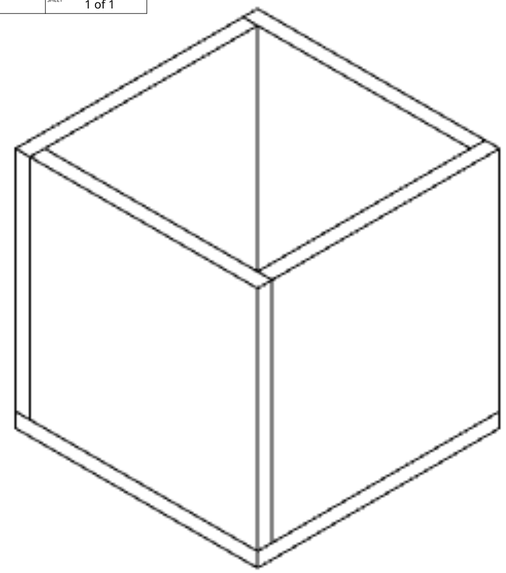
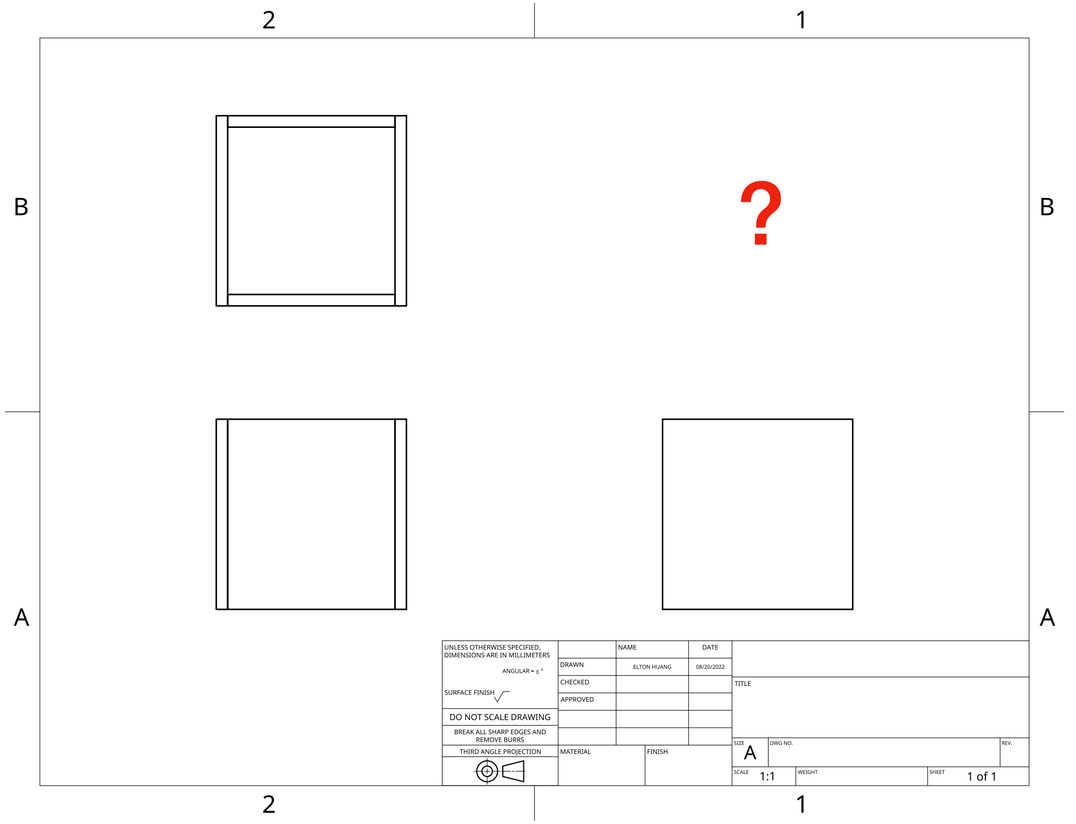
K
L
M

更多練習 ...









練習：建模所需的版型