

# 工程視圖 (三視圖)

2022 (C) Elton Huang 黃敦紀





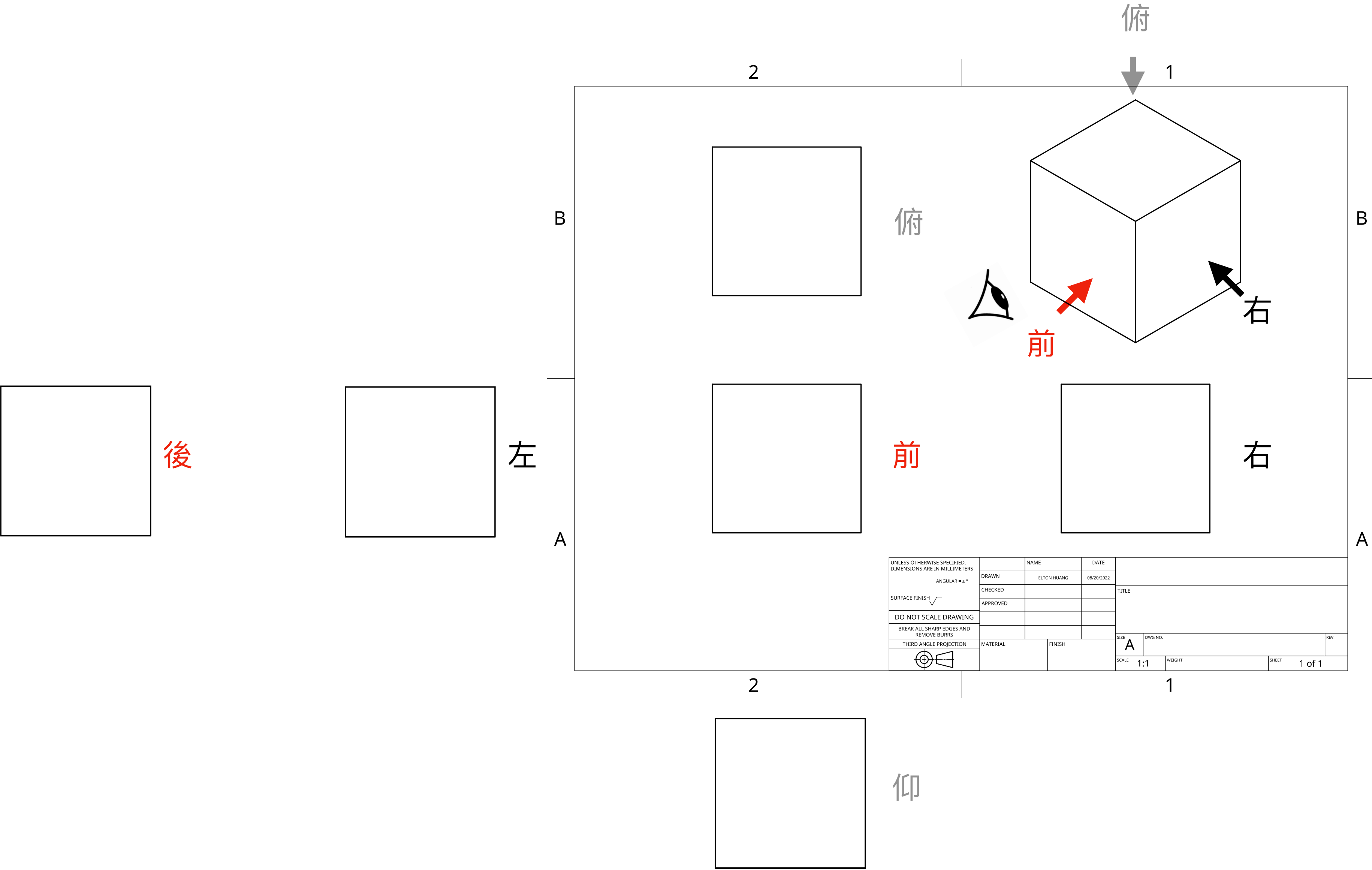


Honda CR-V Commercial

Oscars Commercial: Illusion with Neil Patrick Harris

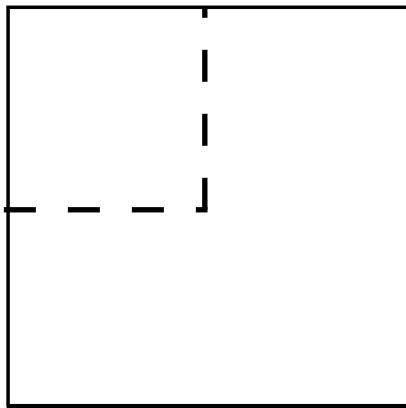


展開圖

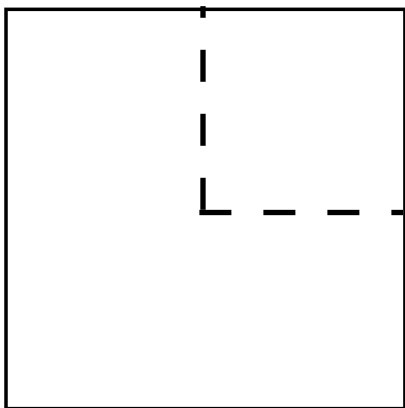


展開圖

(與右視對稱於分開觀察者與物件的平面)

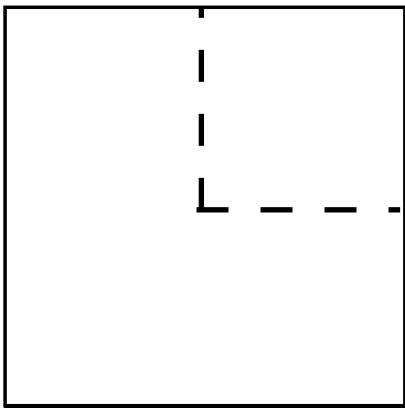


後

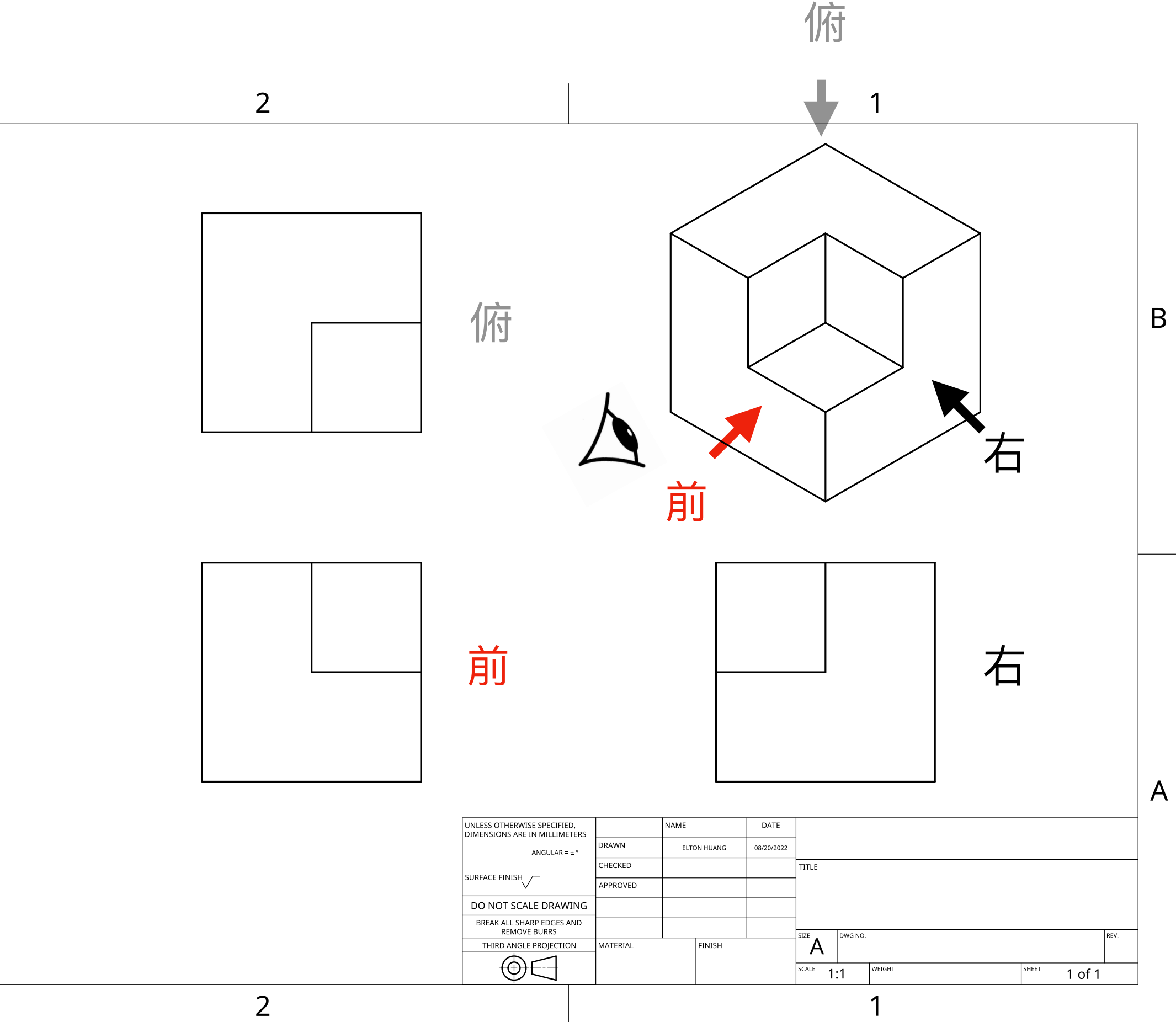


左

(與右視對稱貫穿過觀察者與物件平面)

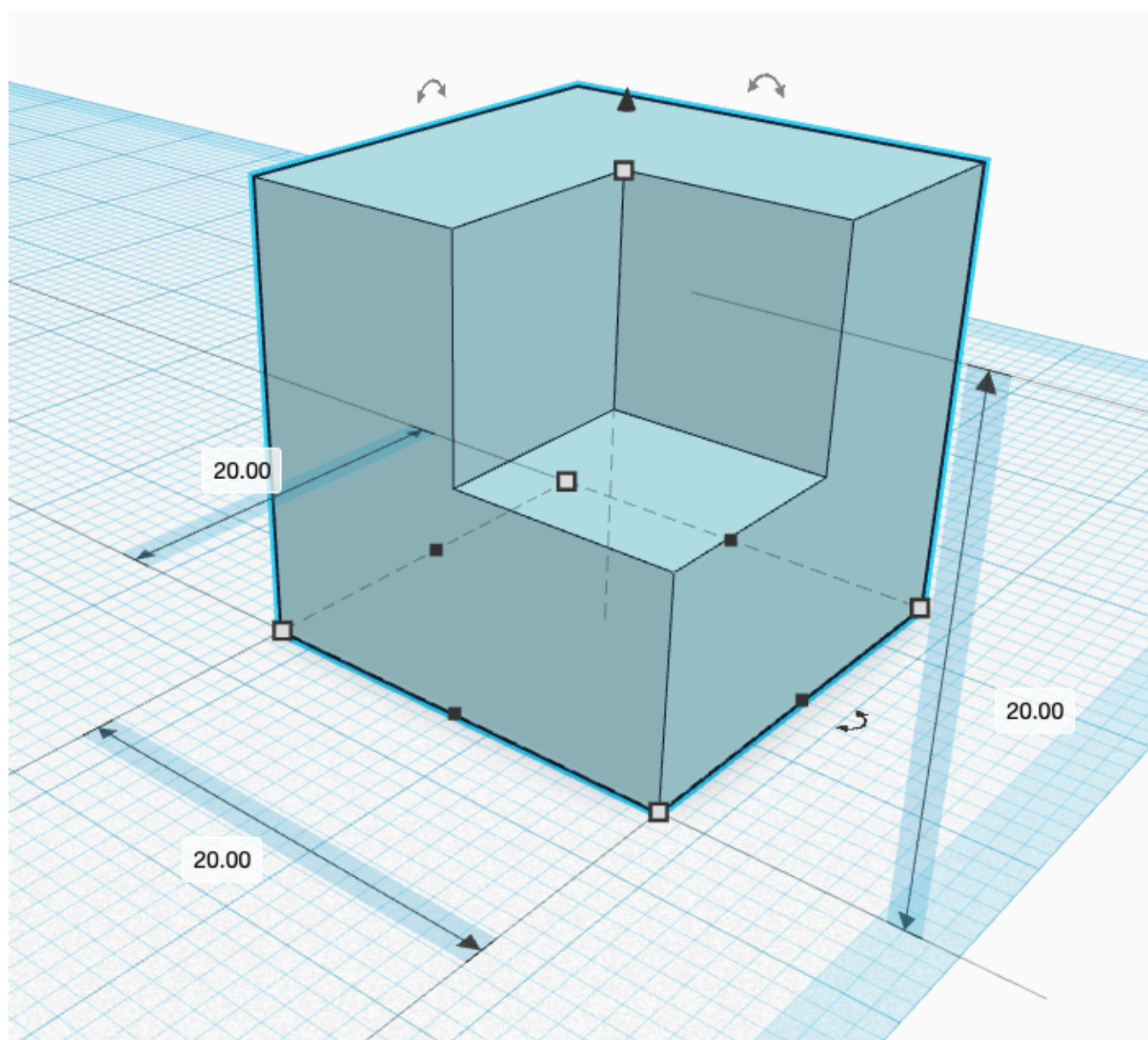


仰 (與俯視對稱於水平面)





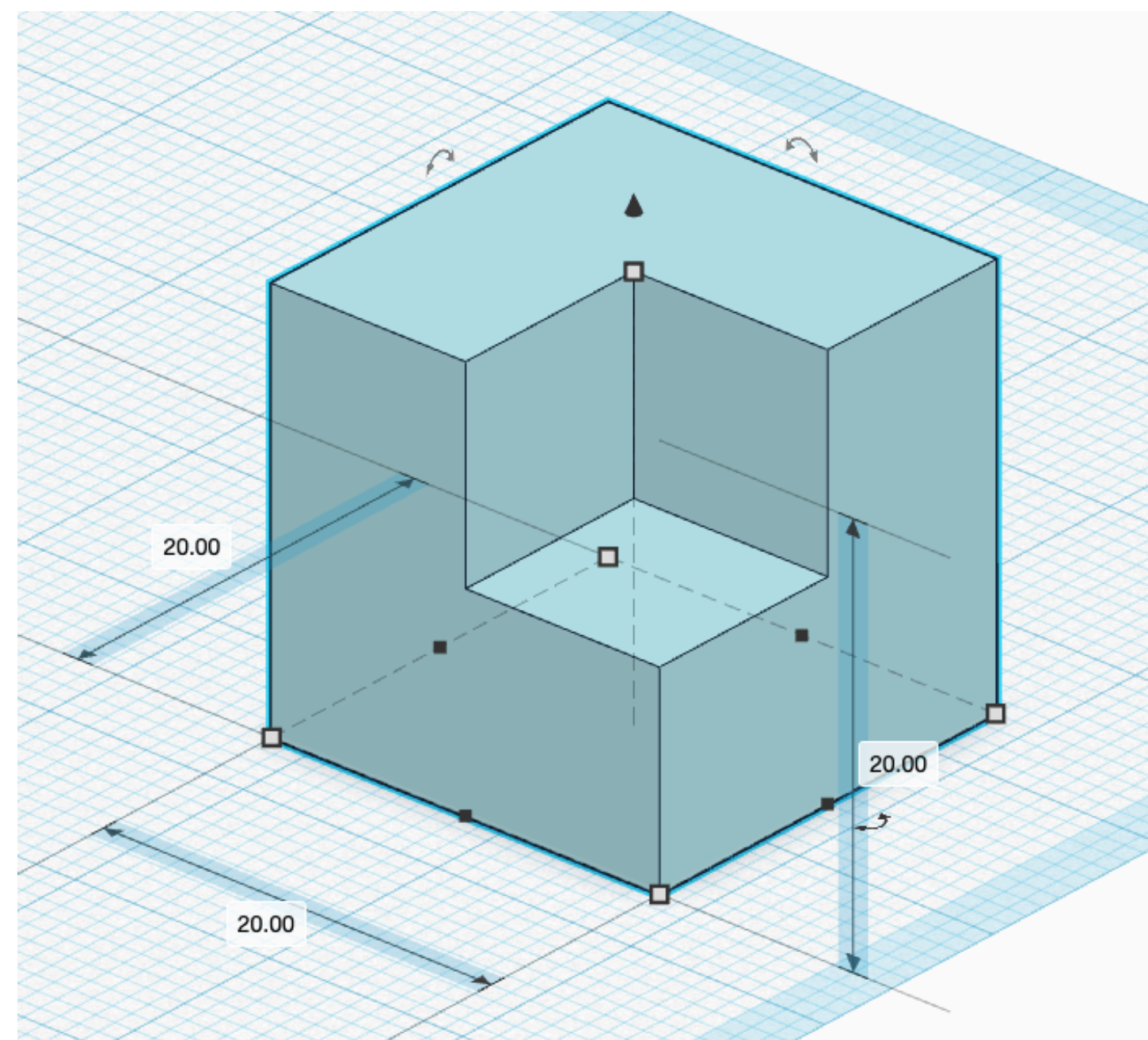
# 在二維平面呈現三維立體物件的 3 種方式



## 正視圖、立體圖

和數學立體空間幾何原則一致

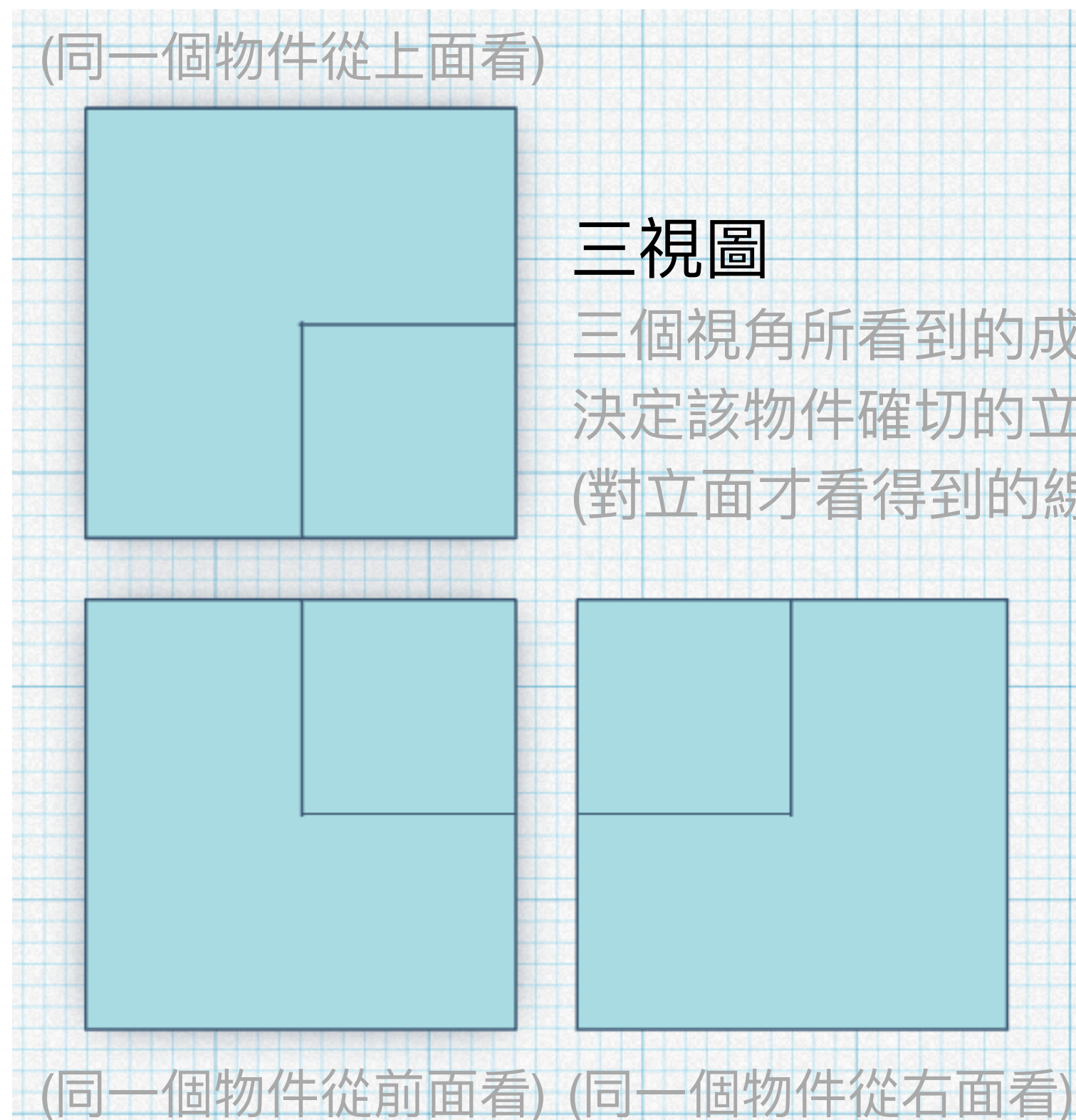
物體原來在 3D 空間平行的線  
在 2D 圖面上仍然平行



## (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



## 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)







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

A

UNLESS OTHERWISE SPECIFIED,  
DIMENSIONS ARE IN MILLIMETERS

ANGULAR = ± °

SURFACE FINISH ✓

DO NOT SCALE DRAWING

BREAK ALL SHARP EDGES AND  
REMOVE BURRS

THIRD ANGLE PROJECTION

DRAWN

CHECKED

APPROVED

NAME

ELTON HUANG

DATE

08/20/2022

TITLE

SIZE

A

DWG NO.

REV.

SCALE

1:1

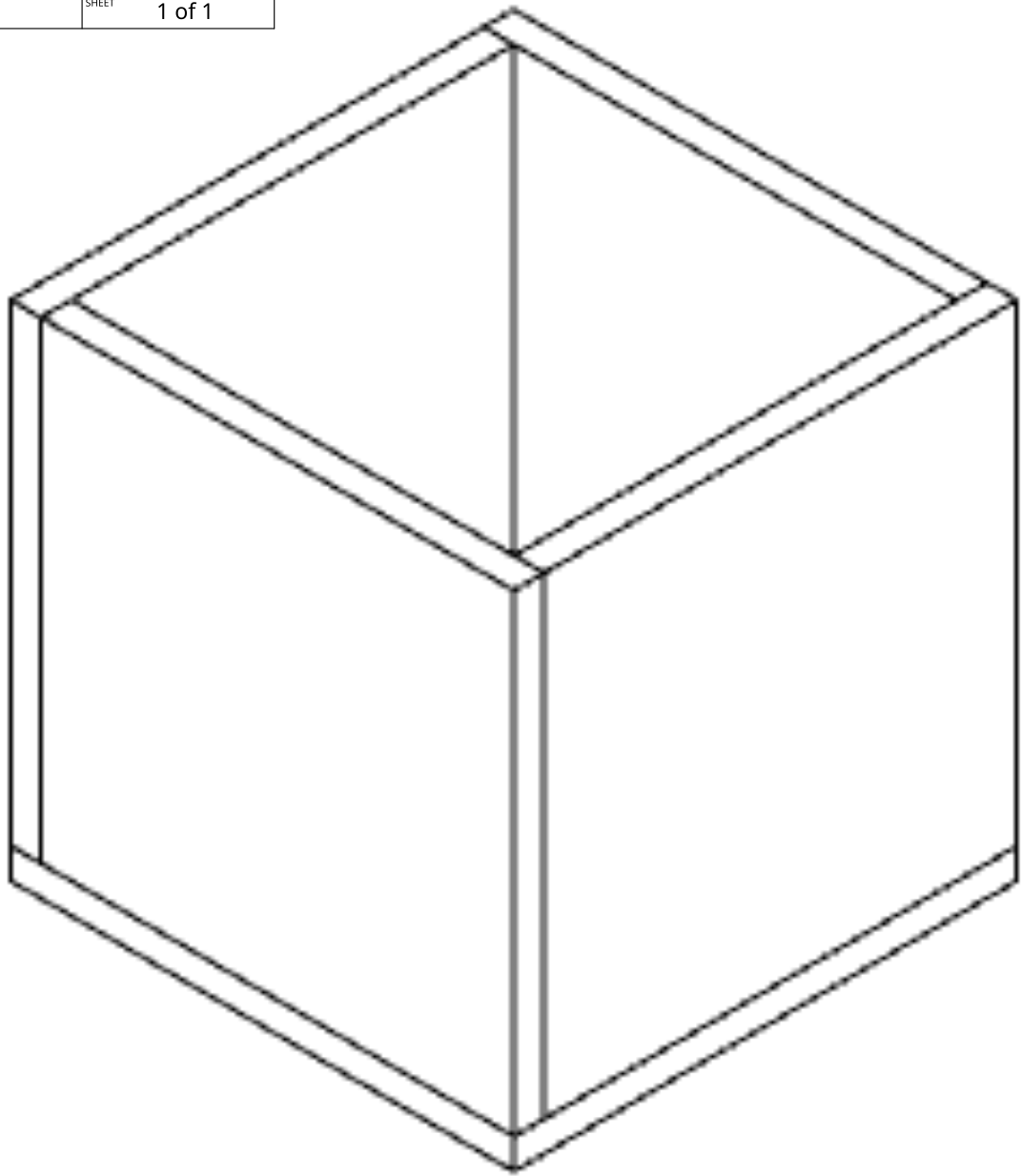
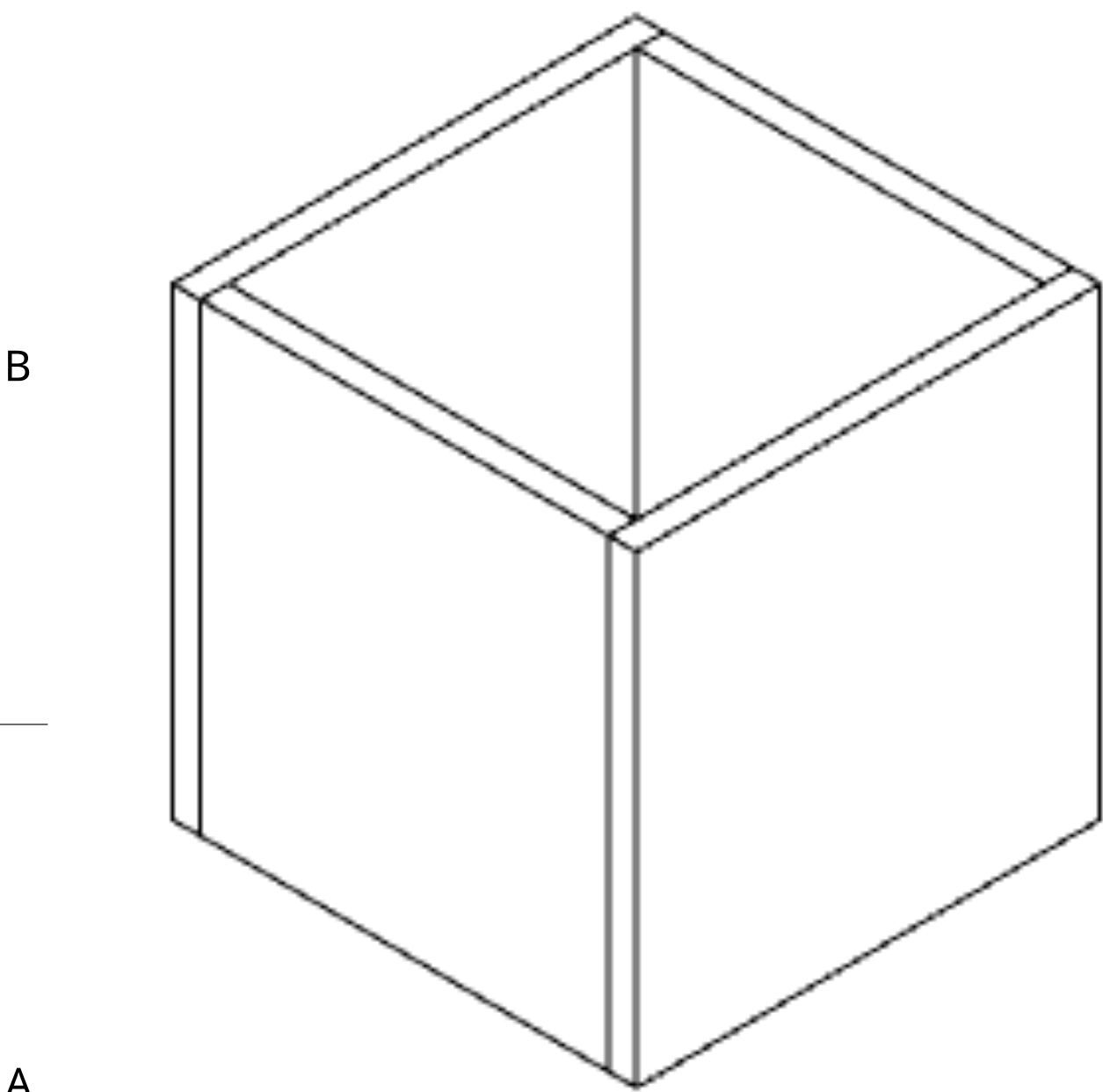
WEIGHT

SHEET

1 of 1

2

1



1

B

A

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1:1

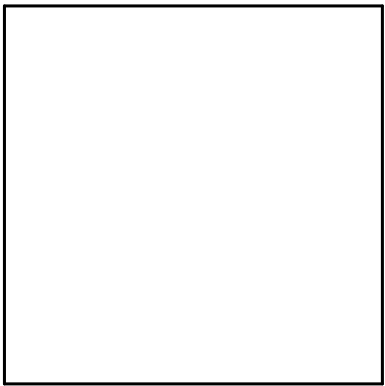
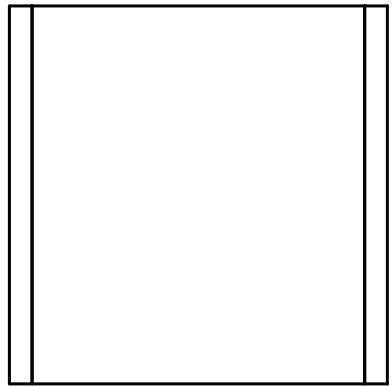
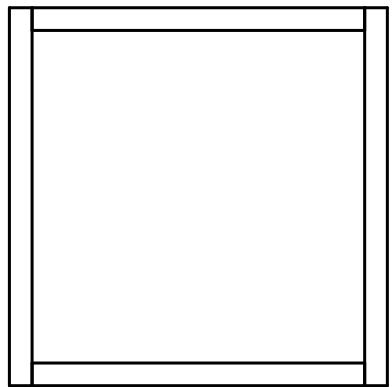
WEIGHT

SHEET

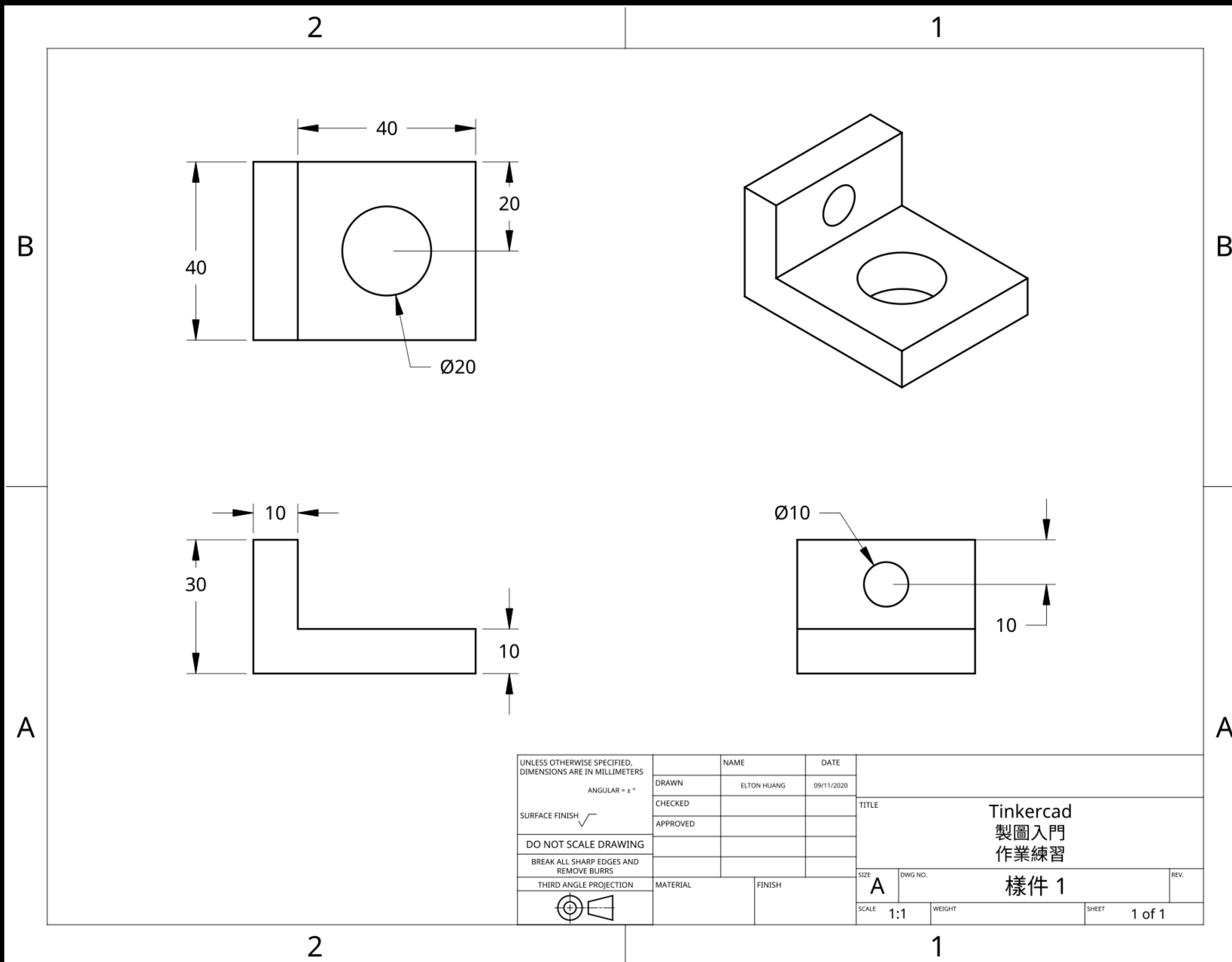
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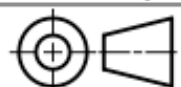
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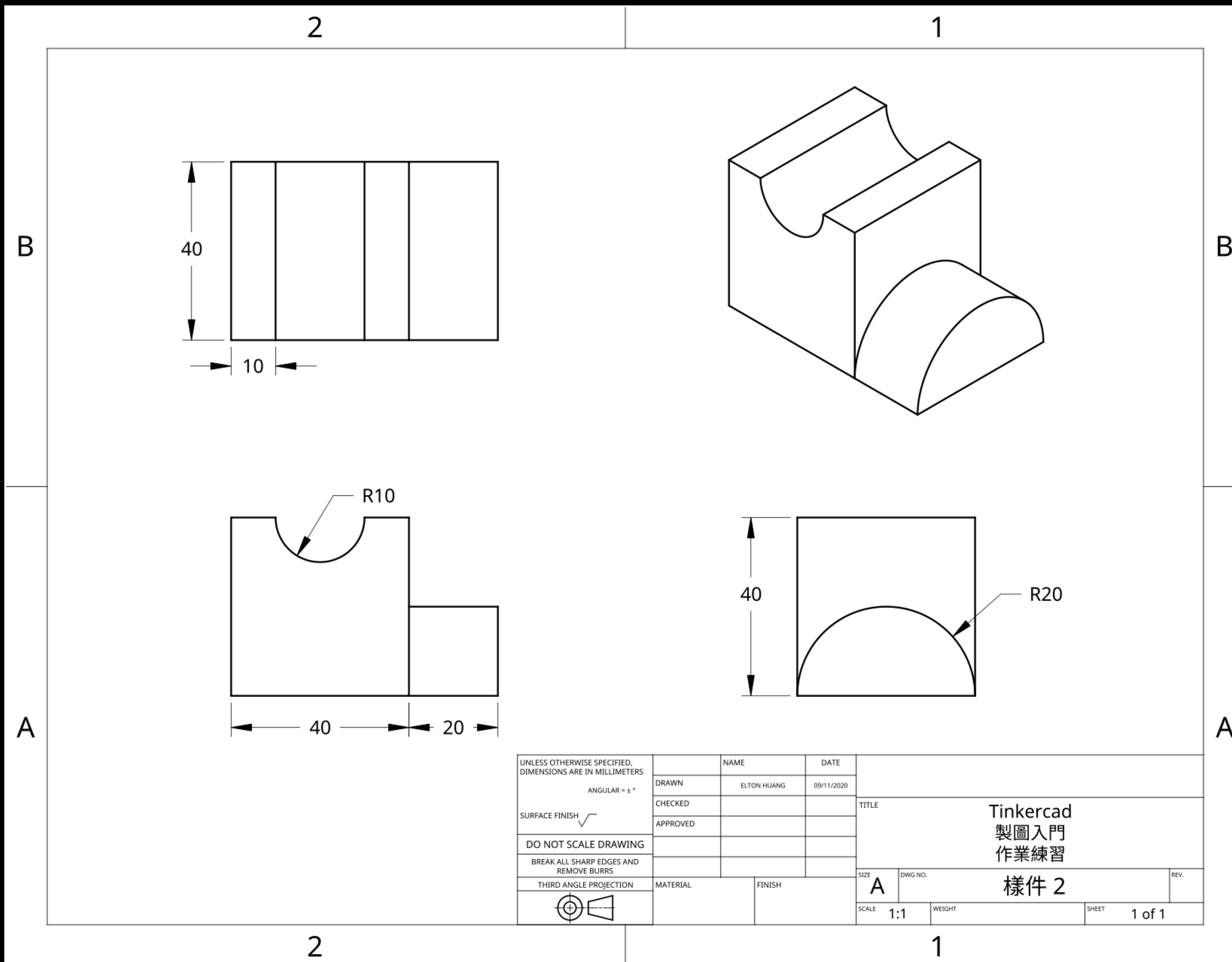
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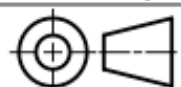






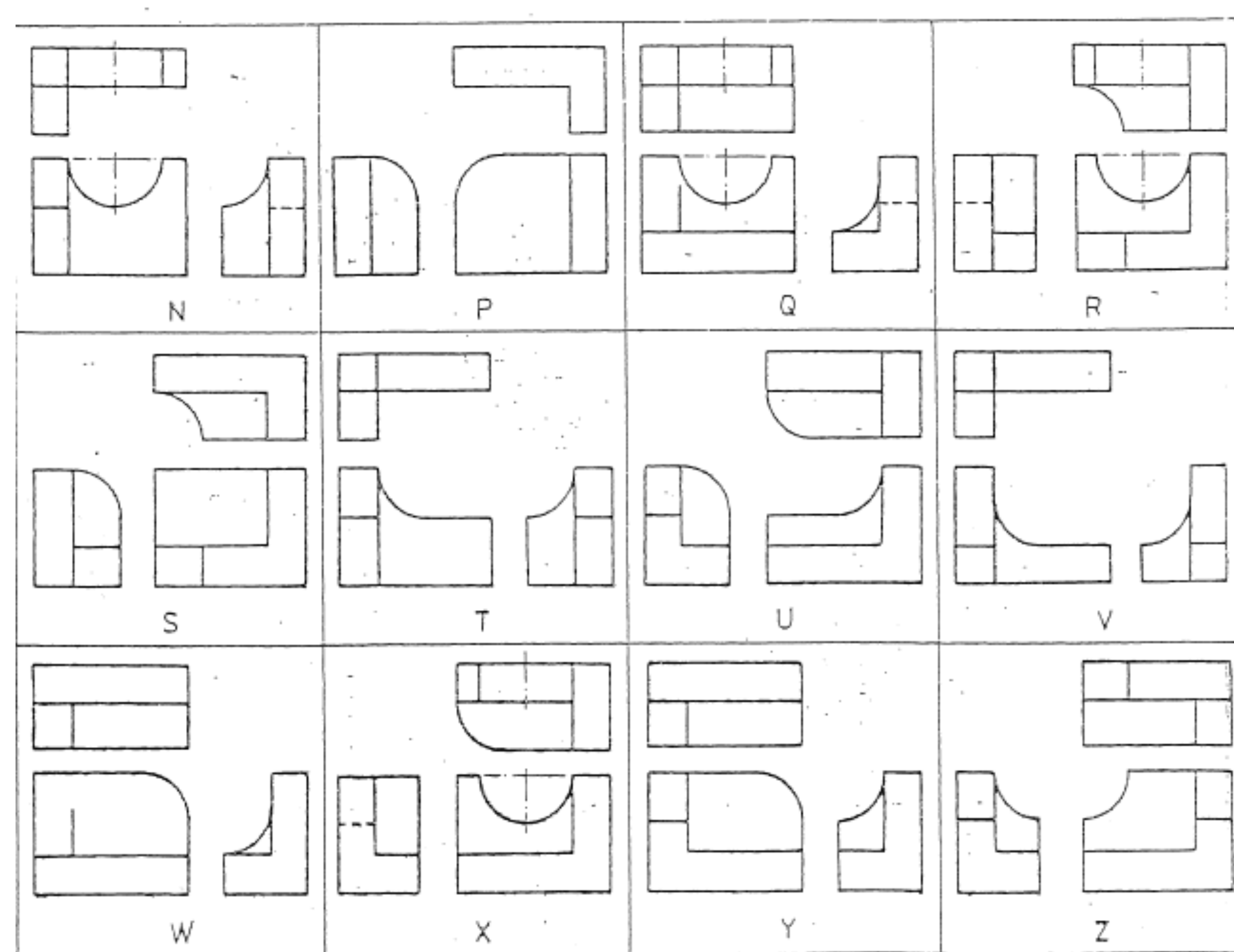
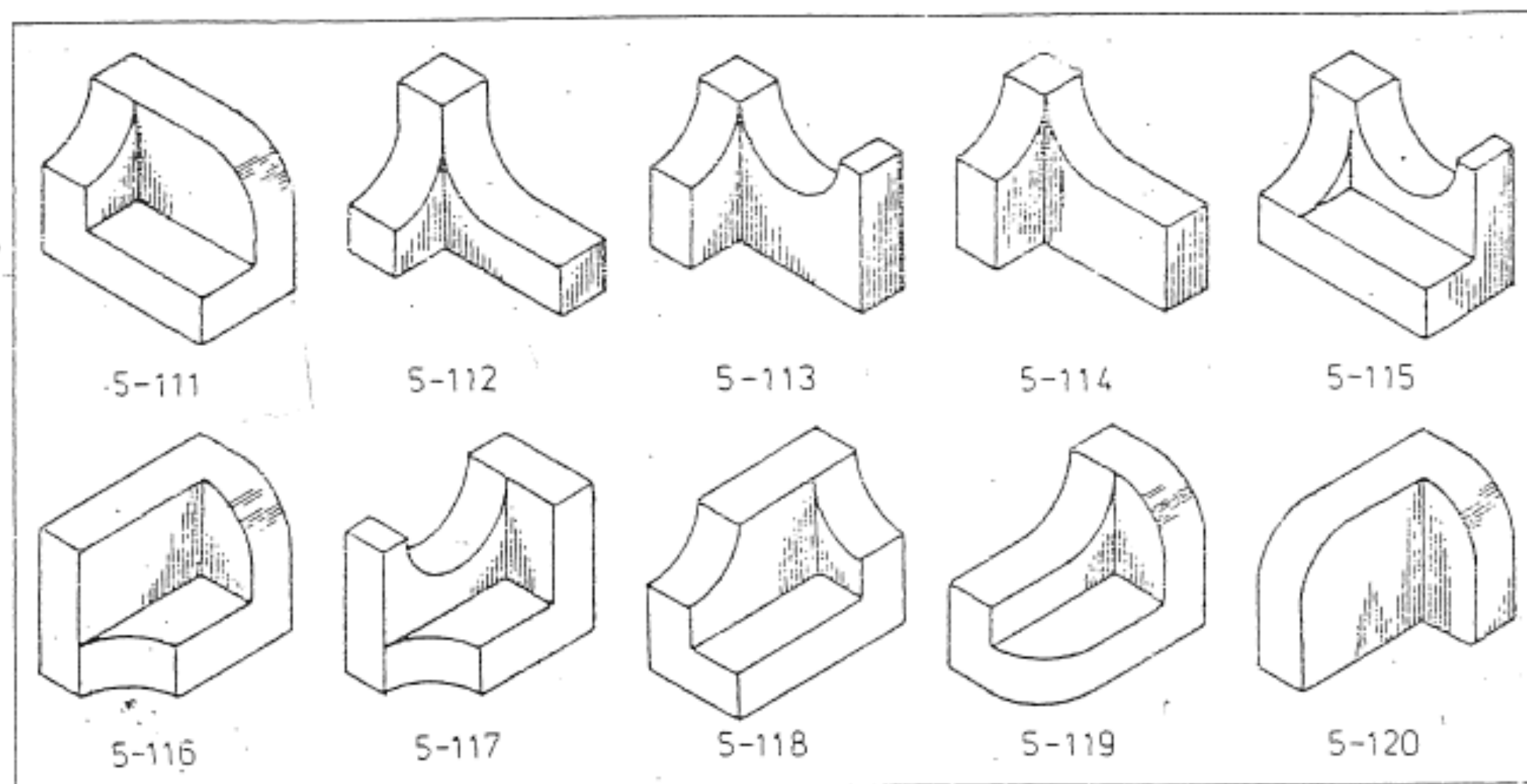
UNLESS OTHERWISE SPECIFIED, DIMENSIONS ARE IN MILLIMETERS  ANGULAR = ± °  SURFACE FINISH   DO NOT SCALE DRAWING  BREAK ALL SHARP EDGES AND REMOVE BURRS  THIRD ANGLE PROJECTION 		NAME	DATE	TITLE Tinkercad 製圖入門 作業練習		
	DRAWN	ELTON HUANG	09/11/2020			
	CHECKED					
	APPROVED					
				SIZE A		
	MATERIAL		FINISH		DWG NO.	樣件 1
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					WEIGHT	
					SHEET	1 of 1

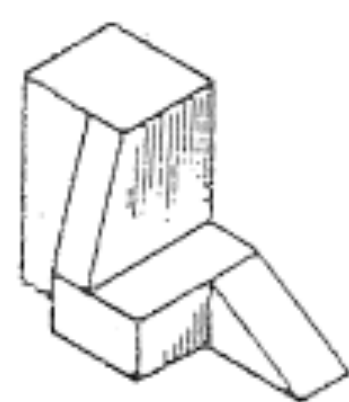


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	DRAWN	ELTON HUANG	09/11/2020			
	CHECKED			TITLE Tinkercad 製圖入門 作業練習		
	APPROVED					
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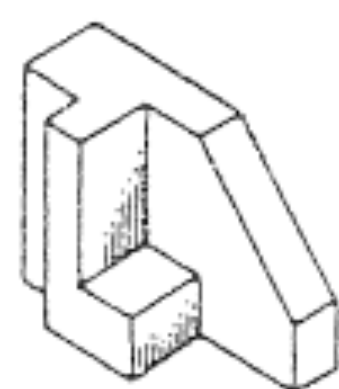




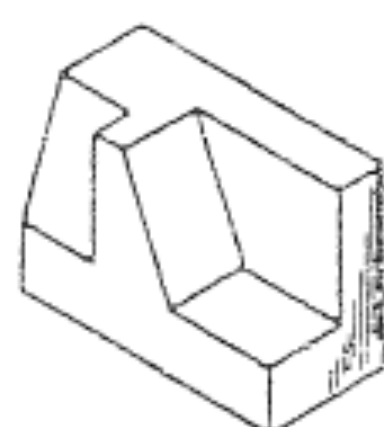




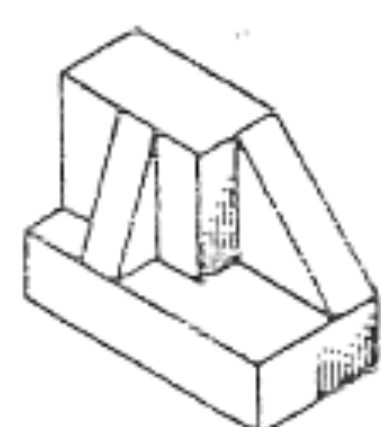
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5-102



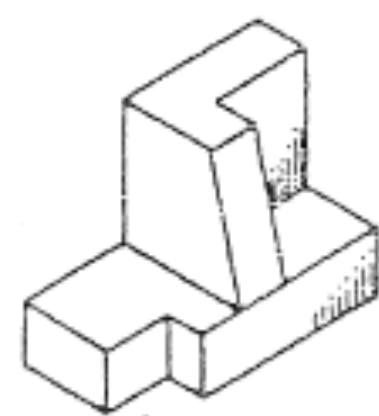
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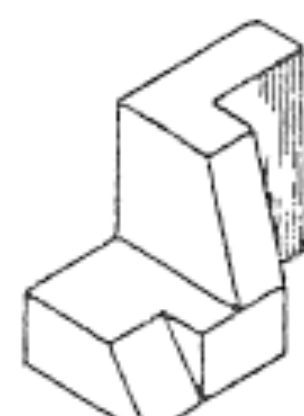
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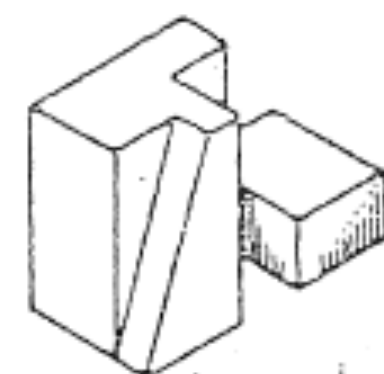
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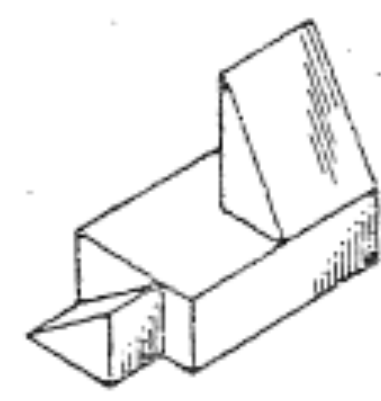
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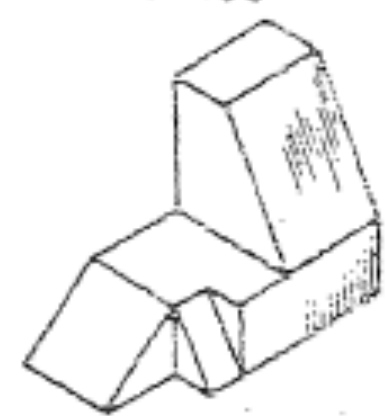
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5-108



5-109



5-110

