

ภาคผนวก

ภาคผนวก ก.

รายชื่อผู้เชี่ยวชาญในการตรวจสอบแบบสอบถาม

รายชื่อผู้เชี่ยวชาญ

- | | |
|---------------------------------|---|
| 1. ผศ. สุวรรณี ฤกษ์จारी | ภาควิชาจิตวิทยา คณะศึกษาศาสตร์
มหาวิทยาลัยขอนแก่น |
| 2. อาจารย์รัตนา อัดมวงค์ | โรงเรียนลวาทิตคณะศึกษาศาสตร์
มหาวิทยาลัยขอนแก่น |
| 3. อาจารย์ชูเกียรติ ลอองแก้ว | โรงเรียนลวาทิตมอดินแดง จ.ขอนแก่น |
| 4. อาจารย์รัชชัย ศรีสุธัญญาวงศ์ | ศึกษานิเทศก์ สำนักงานการประถม-
ศึกษาจังหวัดร้อยเอ็ด จ.ร้อยเอ็ด |
| 5. อาจารย์อาคม ตากใบ | ศึกษานิเทศก์ สำนักงานการประถม-
ศึกษาจังหวัดร้อยเอ็ด จ.ร้อยเอ็ด |
| 6. อาจารย์ประคอง พลสิทธิ์ | โรงเรียนบ้านม่วงประชาบำรุง จ.อุดรธานี |

ภาคผนวก ข.

- การคำนวณกลุ่มตัวอย่าง
- ค่าความยากง่ายและค่าอำนาจจำแนกที่ได้จากการศึกษาระยะที่ 3

การคำนวณกลุ่มตัวอย่างที่ใช้ในการศึกษาระยะที่3 - การสร้างเกณฑ์ปกติ

ตารางที่ 22 ขนาดประชากรที่ใช้ศึกษา

กลุ่มโรงเรียน	N_h	S_h	S_h^2	$N_h S_h$	$N_h S_h^2$
1. กลุ่มโรงเรียนเหนือเมือง	950	7.57	57.30	7191.50	54435
2. กลุ่มโรงเรียนขอนแก่น	351	6.91	47.75	2425.41	16760.25
3. กลุ่มโรงเรียนโพธิ์ศรีสะอาด	443	6.94	48.16	3074.42	21334.88
4. กลุ่มโรงเรียนสหศึกษา	325	7.21	51.98	2343.25	16893.50
5. กลุ่มโรงเรียนหนองแก้ว	383	8.32	69.22	3186.56	26511.26
6. กลุ่มโรงเรียนเมืองแวง	405	6.43	41.34	2604.15	16742.7
7. กลุ่มโรงเรียนรอบเมือง	870	6.20	38.44	5394.00	33442.80
8. กลุ่มโรงเรียนดีแก้ว	463	6.44	41.47	2981.72	19200.61
รวม	4190			29201.01	205321

- คำนวณขนาดกลุ่มตัวอย่างโดยใช้สูตรการจัดสรรแบบเนย์แมน

$$n = \frac{(\sum N_h S_h)^2}{N^2 D^2 + \sum N_h S_h^2}$$

ในการสุ่มตัวอย่างยอมให้เกิดการผิดพลาดได้ 1% ด้วยระดับความเชื่อมั่น 99 % จะได้ค่า D^2 เท่ากับ 0.02 แทนค่าในสูตรได้ขนาดกลุ่มตัวอย่างเท่ากับ 1532 คน หลังจากนั้นทำการจัดสรรขนาดกลุ่มตัวอย่างในแต่ละชั้นภูมิ เพื่อที่จะได้ทราบว่าแต่ละชั้นภูมิจะต้องใช้กลุ่มตัวอย่างขนาดเท่าไร

- คำนวณขนาดกลุ่มตัวอย่างของแต่ละชั้นภูมิ โดยใช้สูตร

$$n_h = \frac{N_h S_h}{\sum N_h S_h} \times n$$

เมื่อแทนค่าในสูตรสามารถคำนวณขนาดกลุ่มตัวอย่างแต่ละชั้นภูมิได้ดังตารางที่ 18
ดังต่อไปนี้

ตารางที่ 23 ขนาดกลุ่มตัวอย่างในแต่ละชั้นภูมิที่ใช้ในการศึกษาปีที่ 3

กลุ่มโรงเรียน	ขนาดประชากร (คน)	ขนาดกลุ่มตัวอย่าง (คน)
1. กลุ่มโรงเรียนเหนือเมือง	950	377
2. กลุ่มโรงเรียนขอนแก่น	351	127
3. กลุ่มโรงเรียนโพธิ์ศรีสะอาด	443	161
4. กลุ่มโรงเรียนสหศึกษา	325	123
5. กลุ่มโรงเรียนหนองแก้ว	383	167
6. กลุ่มโรงเรียนเมืองแวง	405	137
7. กลุ่มโรงเรียนรอบเมือง	870	283
8. กลุ่มโรงเรียนสีแก้ว	463	157
รวม	4,190	1,532

ตารางที่ 24 ค่าความยากง่ายและค่าอำนาจจำแนกจากการศึกษาครั้งที่ 3

ข้อที่	แบบสอบอนุกรมภาพฉบับที่ 1		แบบสอบอนุกรมภาพฉบับที่ 2	
	P	r	P	r
1	0.95	0.26	0.88	0.43
2	0.73	0.49	0.65	0.56
3	0.82	0.47	0.80	0.47
4	0.81	0.33	0.67	0.49
5	0.61	0.62	0.68	0.52
6	0.71	0.60	0.79	0.33
7	0.65	0.58	0.73	0.55
8	0.70	0.60	0.55	0.64
9	0.55	0.39	0.70	0.56
10	0.53	0.37	0.57	0.60
11	0.52	0.55	0.67	0.68
12	0.50	0.56	0.63	0.60
13	0.54	0.58	0.24	0.22
14	0.55	0.53	0.45	0.39
15	0.60	0.59	0.59	0.51
16	0.77	0.61	0.40	0.36
17	0.65	0.61	0.46	0.48
18	0.40	0.36	0.68	0.59
19	0.54	0.59	0.47	0.48
20	0.52	0.48	0.43	0.43
21	0.49	0.38	0.44	0.44
22	0.47	0.52	0.33	0.40
23	0.50	0.51	0.52	0.52
24	0.30	0.38	0.52	0.44
25	0.85	0.43	0.35	0.32
26	0.32	0.50	0.77	0.58

ตารางที่ 24 ค่าความยากง่ายและค่าอำนาจจำแนกจากการศึกษาครั้งที่ 3 (ต่อ)

ข้อที่	แบบสอบอนุกรมภาพฉบับที่ 1		แบบสอบอนุกรมภาพฉบับที่ 2	
	P	r	P	r
27	0.32	0.30	0.31	0.39
28	0.28	0.32	0.60	0.55
29	0.50	0.47	0.47	0.30
30	0.65	0.39	0.50	0.47
31	0.75	0.52	0.66	0.44
32	0.52	0.53	0.68	0.56
33	0.64	0.58	0.69	0.55
34	0.61	0.65	0.82	0.49
35	0.75	0.60	0.71	0.53
36	0.66	0.58	0.34	0.29

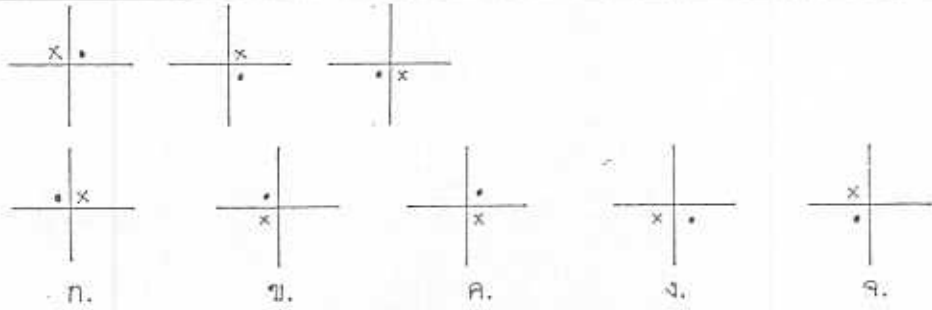
ภาคผนวก ค.

- แบบลอบที่ผู้วิจัยสร้างขึ้นในครั้งแรกเพื่อผ่านการตรวจสอบของผู้เชี่ยวชาญ
- ต้นแบบของแบบลอบ

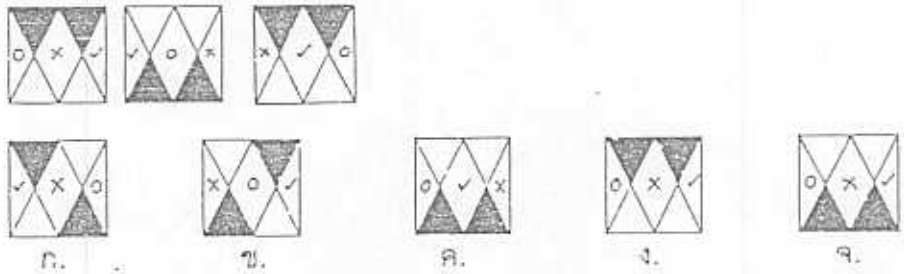
แบบสอบอนุกรมภาพฉบับที่ 1
(แบบสอบที่ผ่านการตรวจความตรงจากผู้เชี่ยวชาญ)

แบบสอบอนุกรม

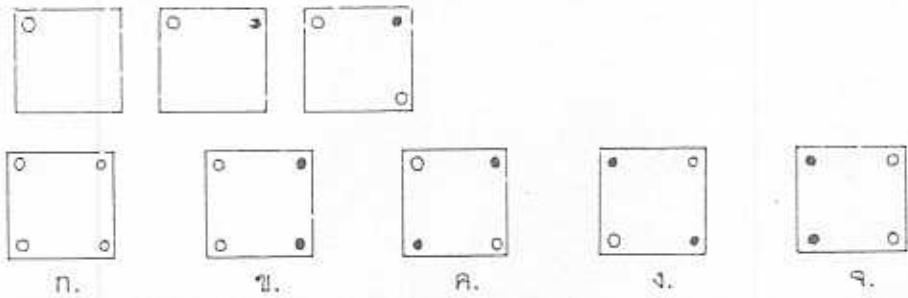
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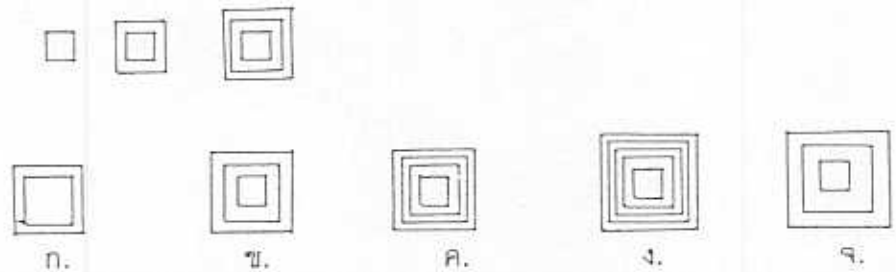
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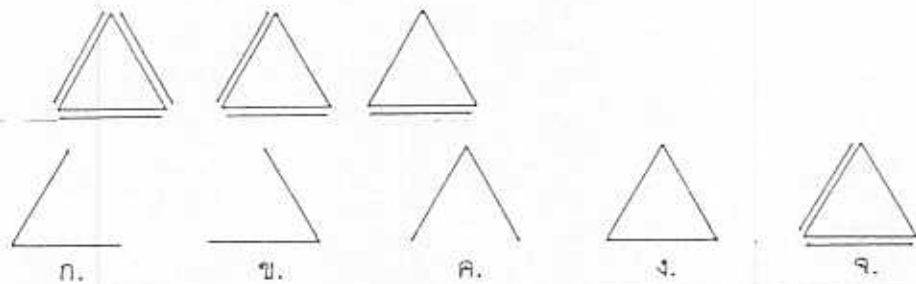
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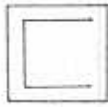
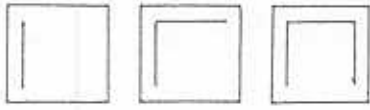
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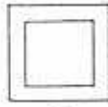
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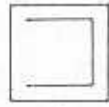
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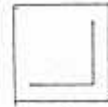
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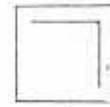
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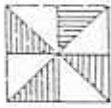
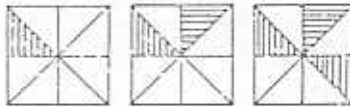


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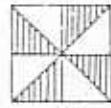


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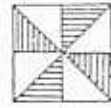
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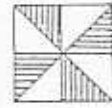
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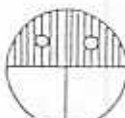
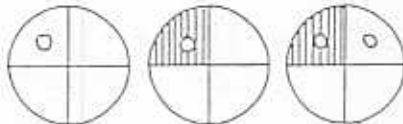


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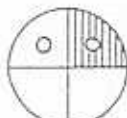


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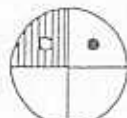
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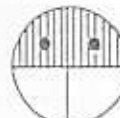
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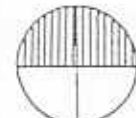
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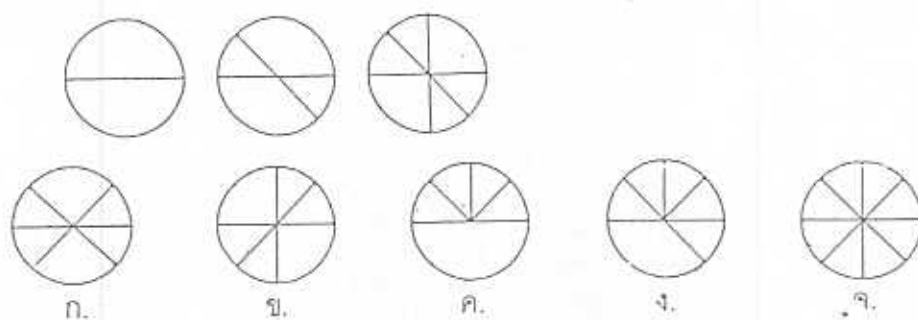


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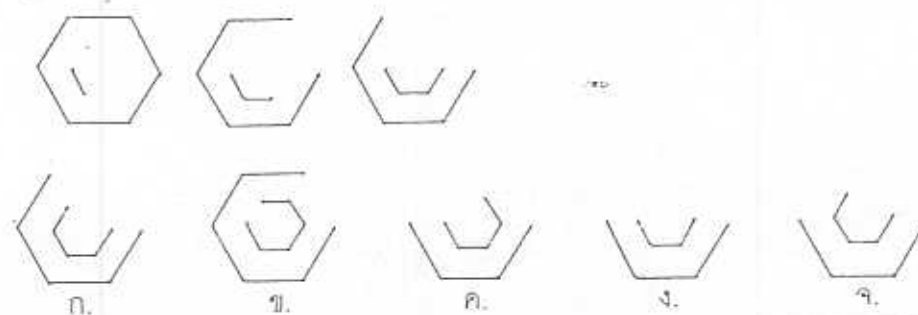


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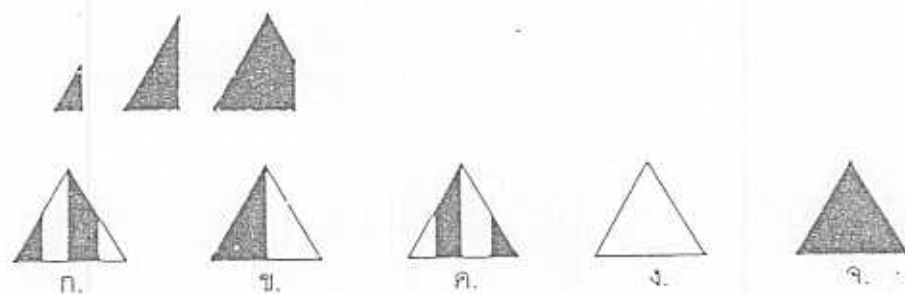
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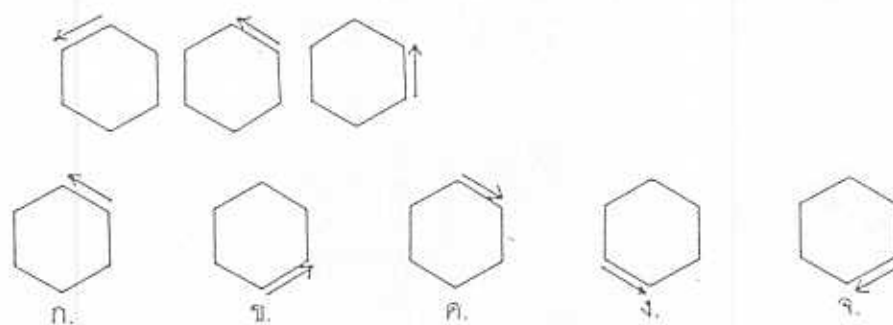
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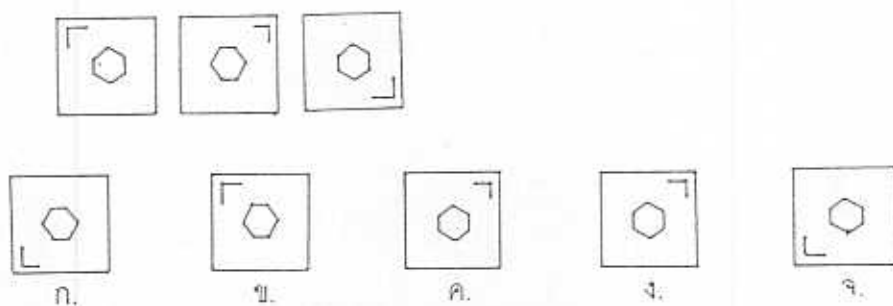
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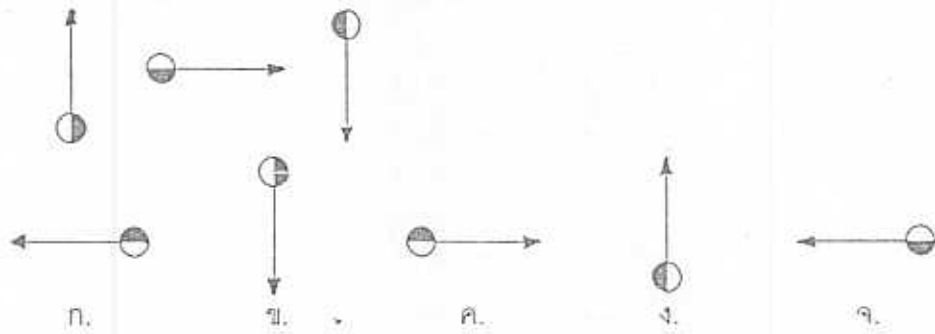
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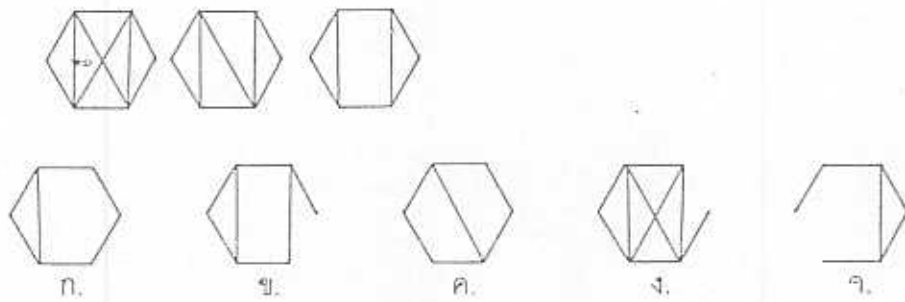
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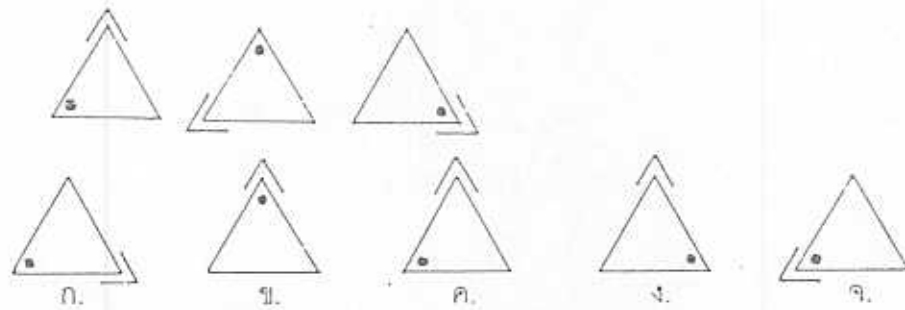
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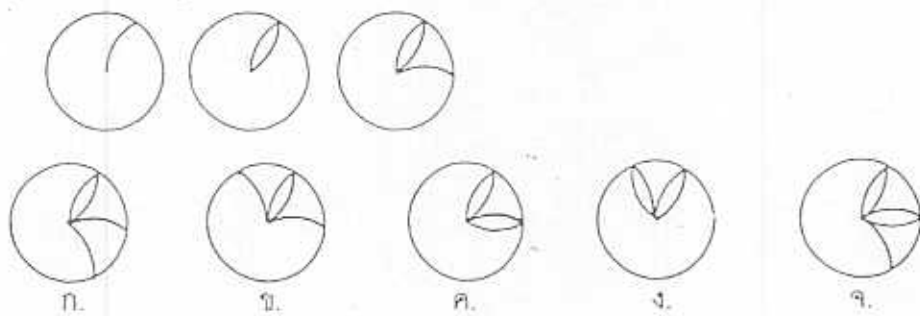
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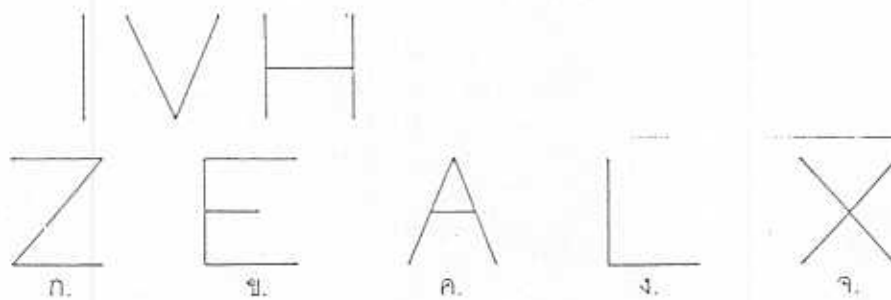
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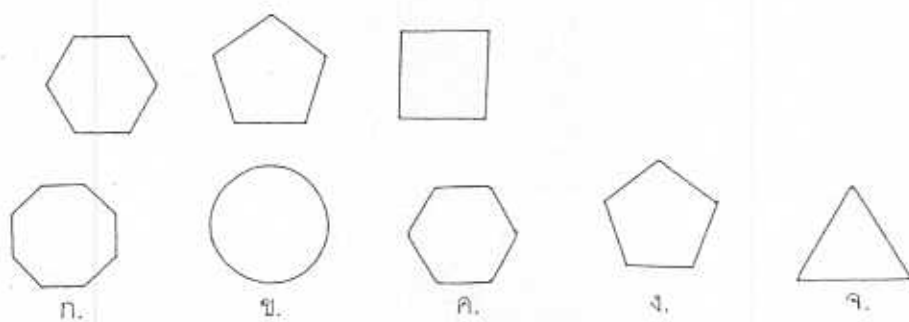
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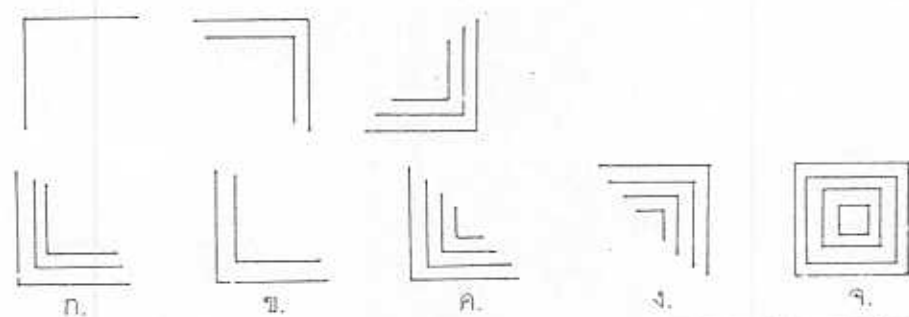
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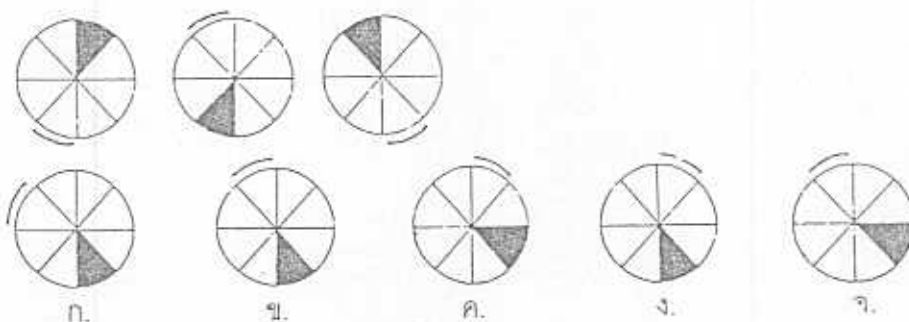
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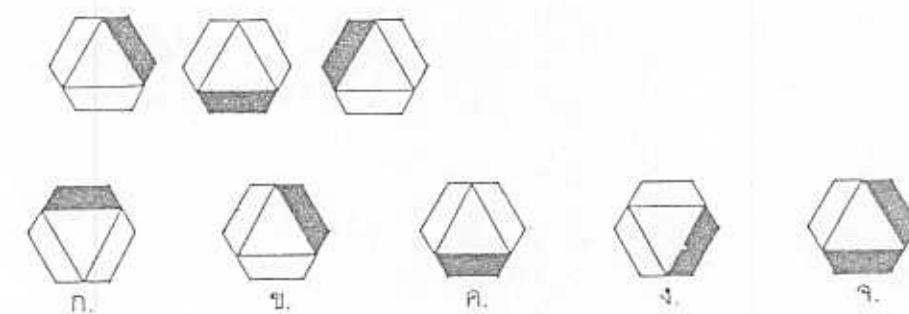
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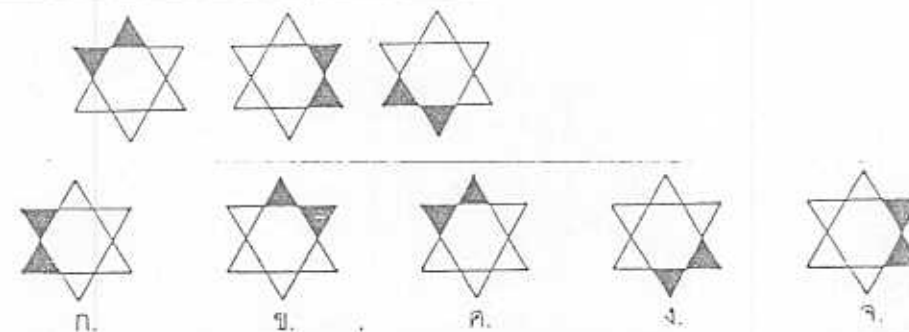
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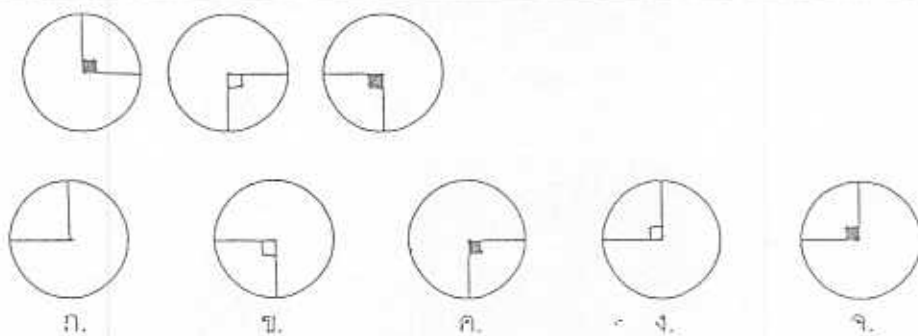
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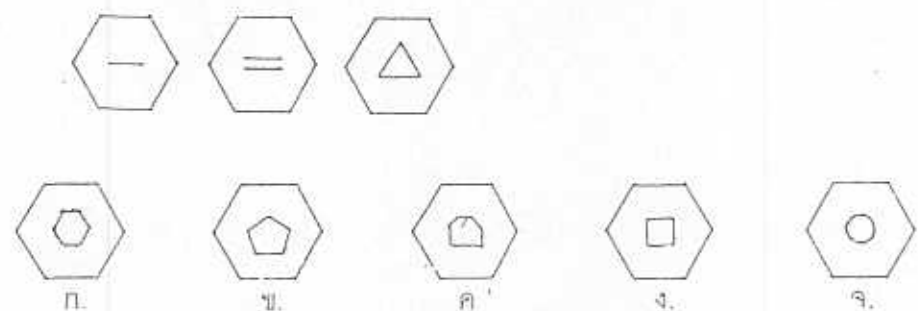
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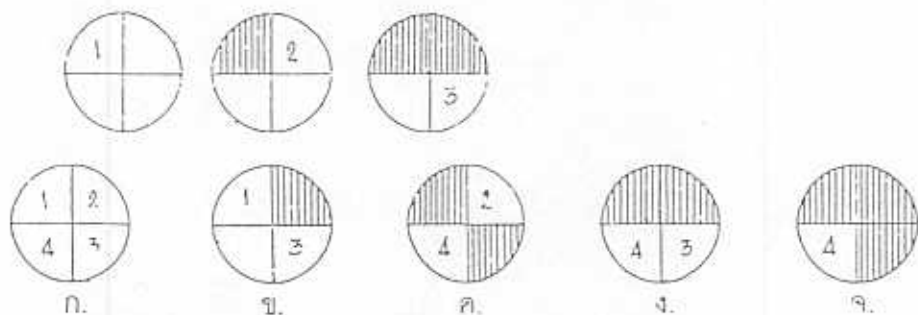
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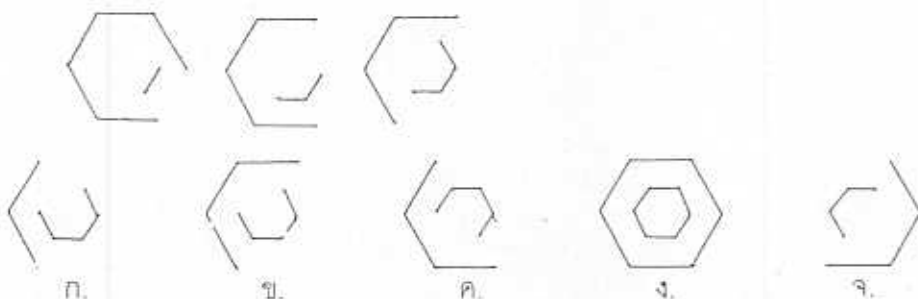
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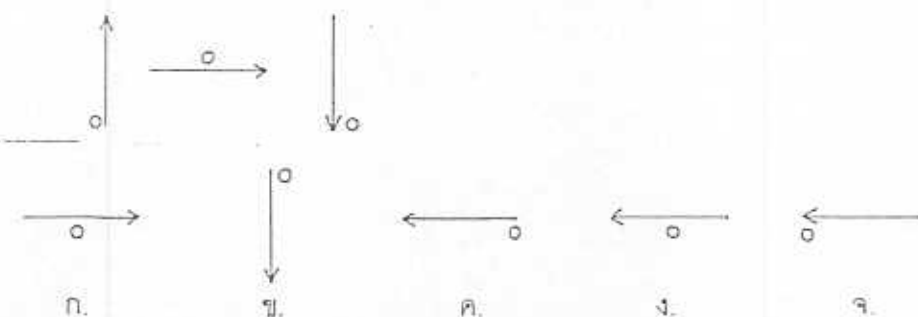
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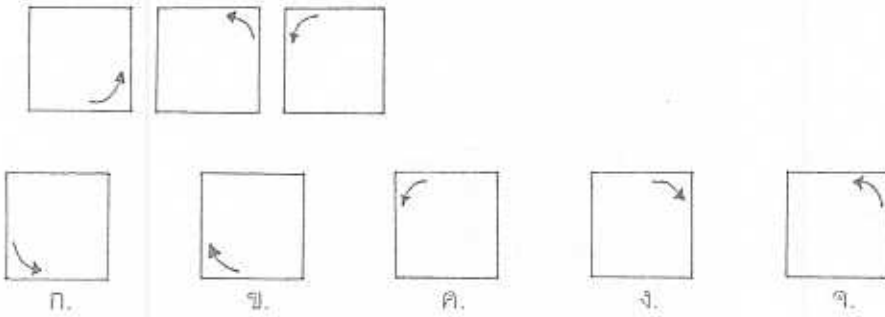
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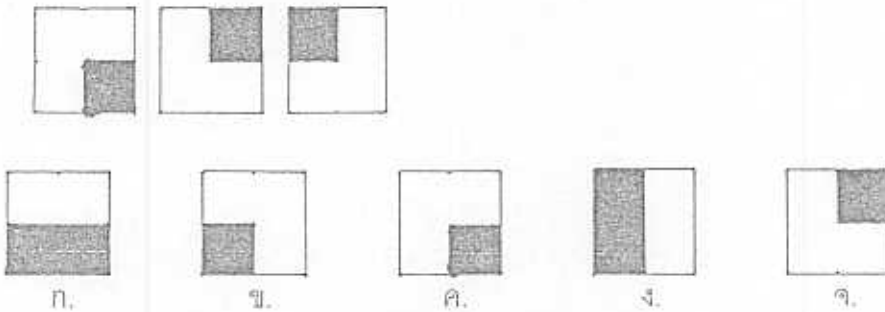
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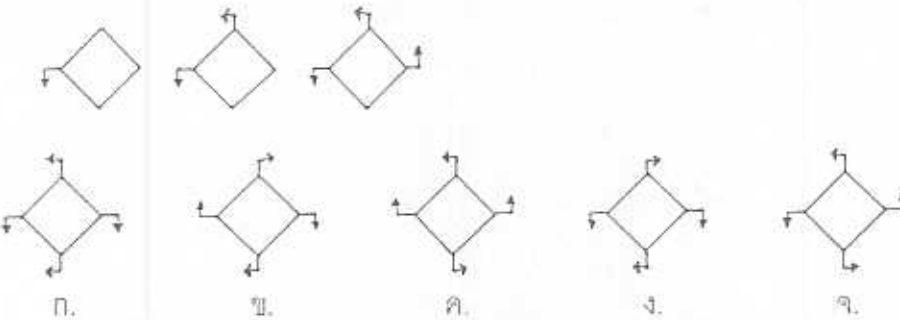
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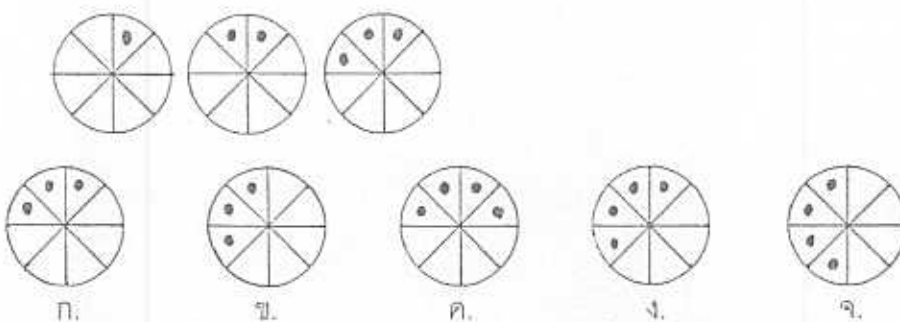
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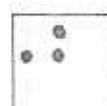
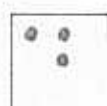
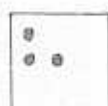
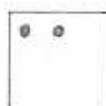
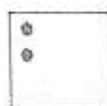
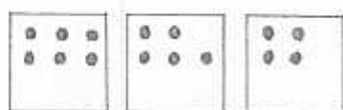
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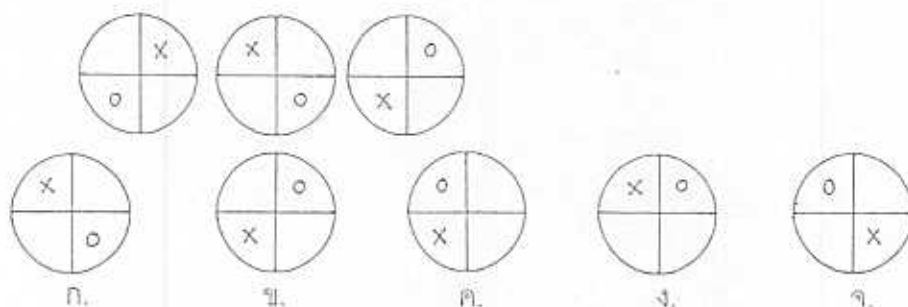
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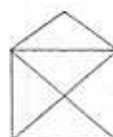
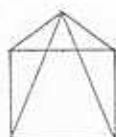
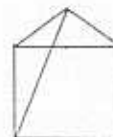
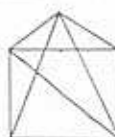
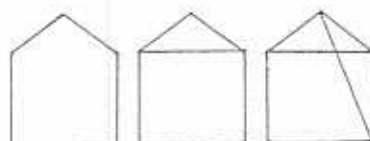
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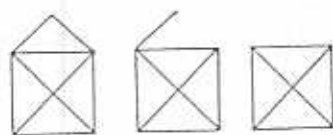
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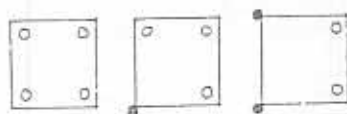


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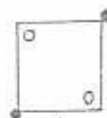


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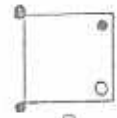
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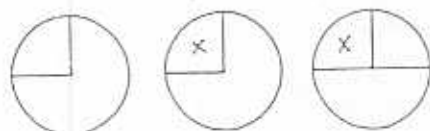


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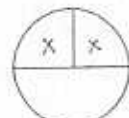
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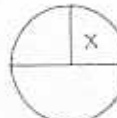
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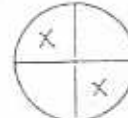
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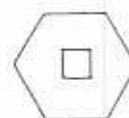
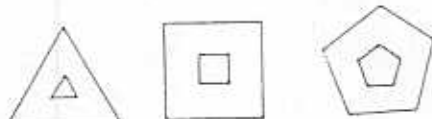


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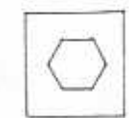


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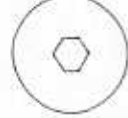
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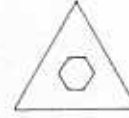
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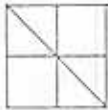
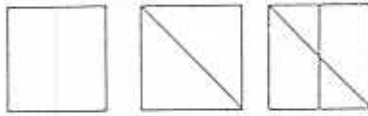
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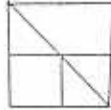
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แบบสอบถามอนุกรมภาพฉบับที่ 2
(แบบสอบถามที่ผ่านการตรวจสอบความตรงจากผู้เชี่ยวชาญ)

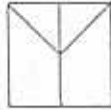
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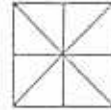
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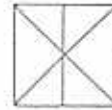
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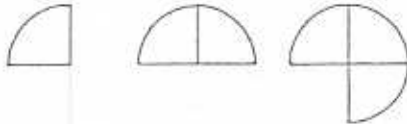


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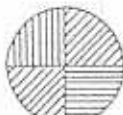
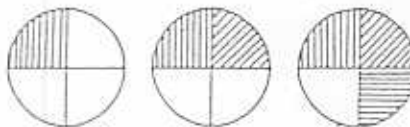


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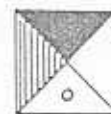


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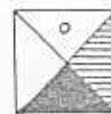
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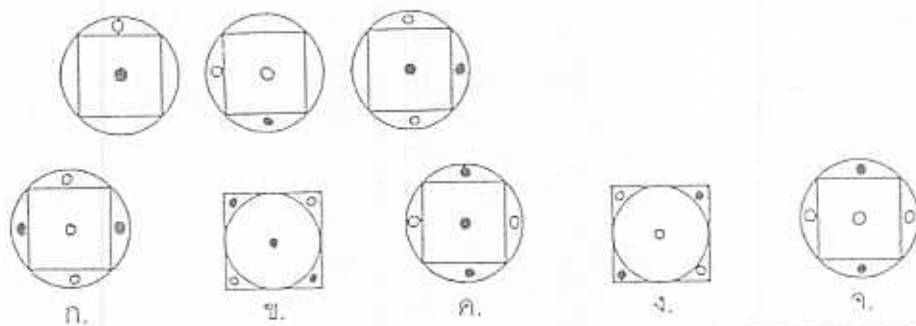


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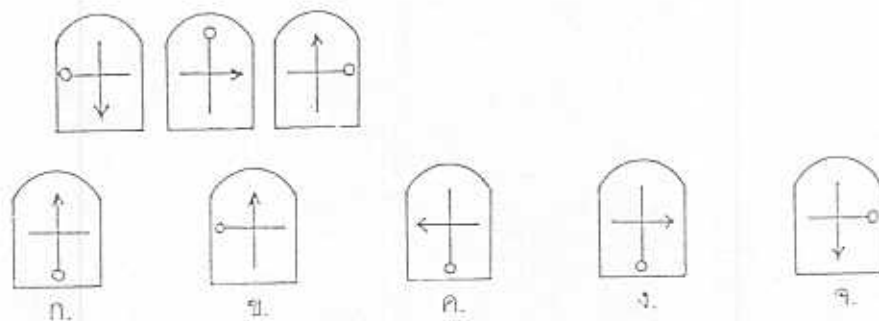


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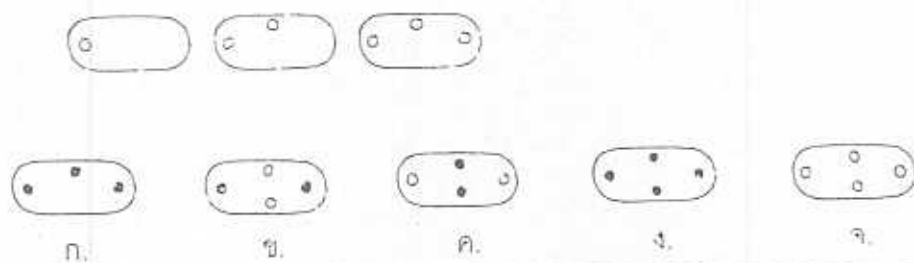
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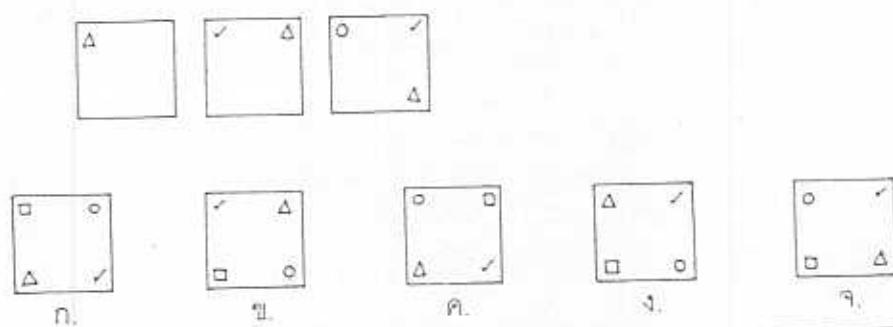
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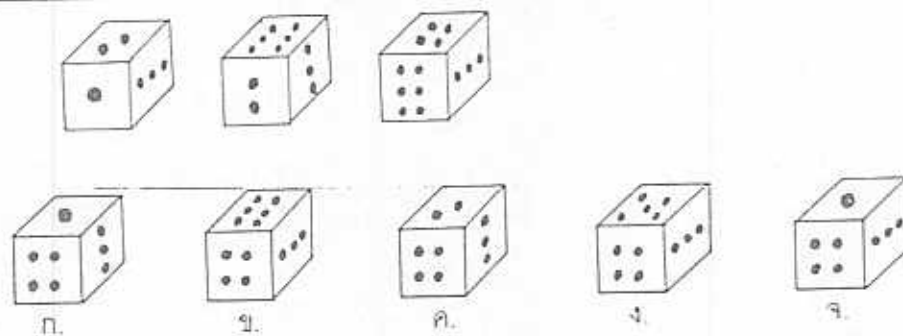
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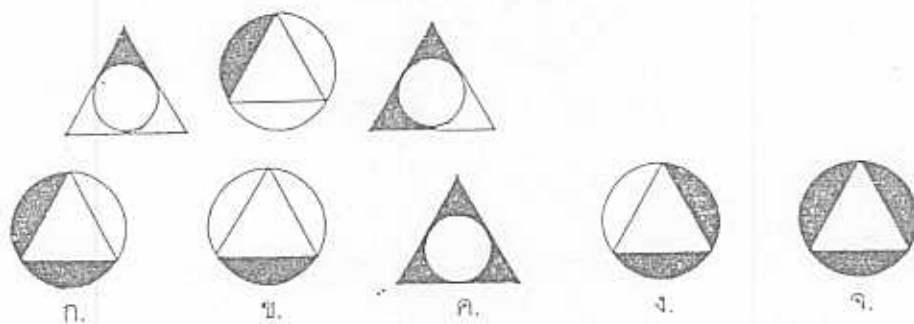
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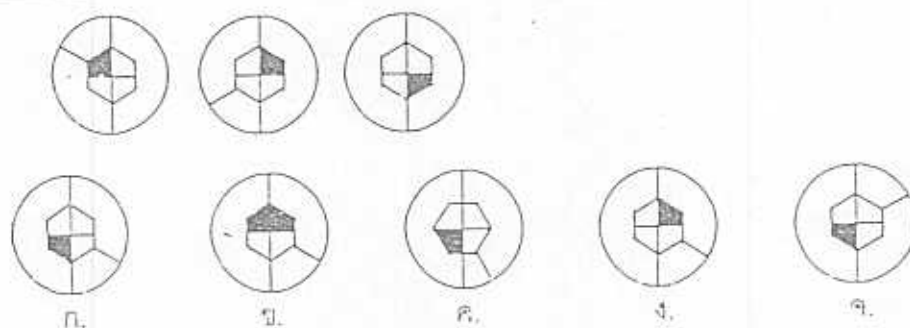
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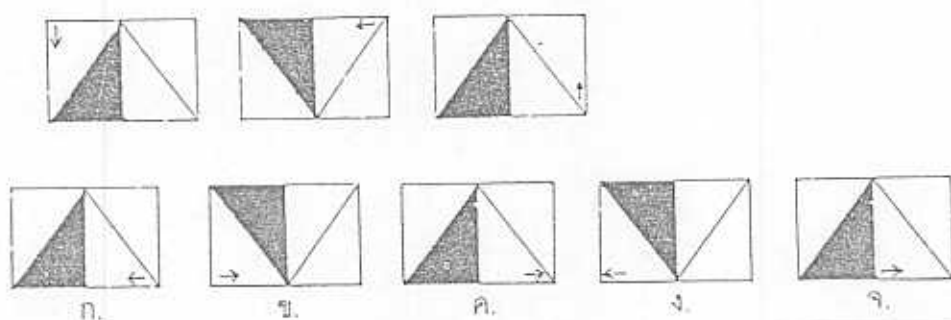
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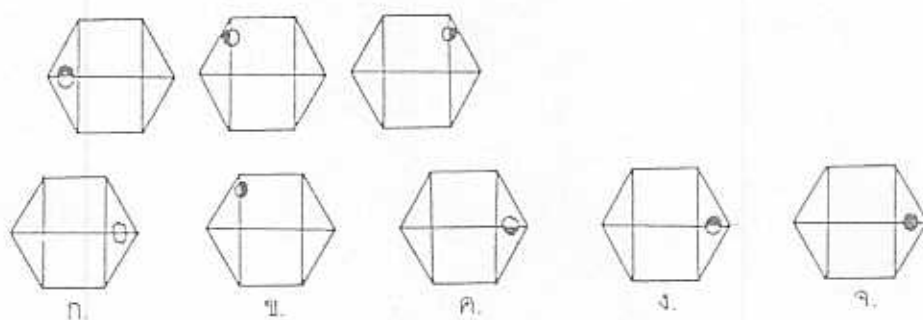
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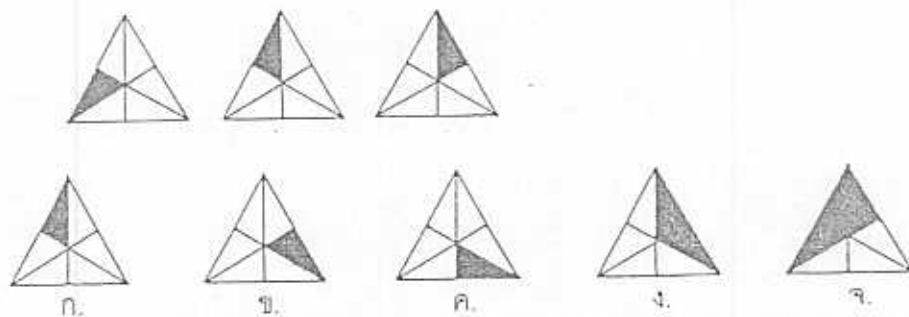
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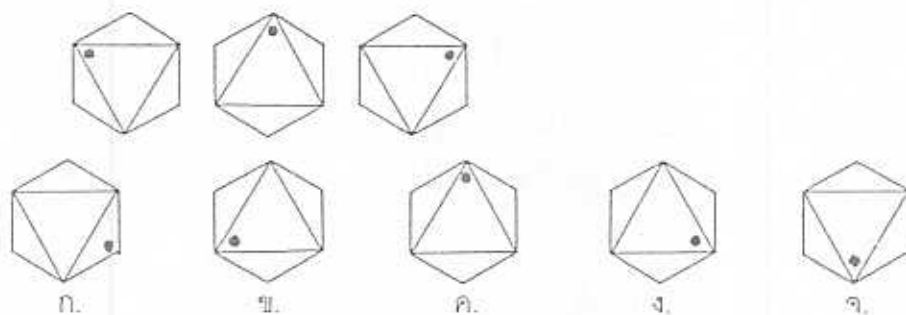
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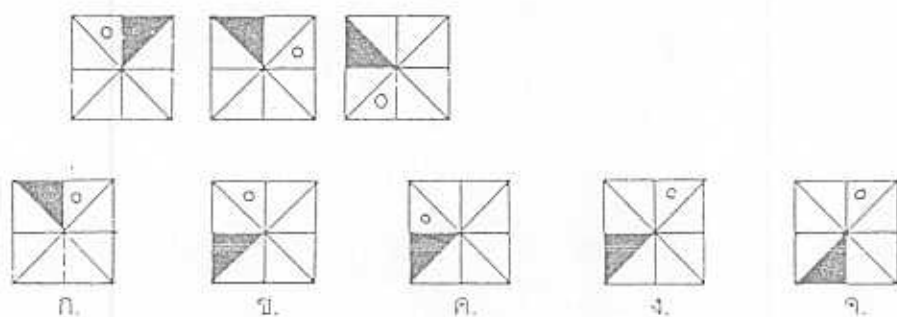
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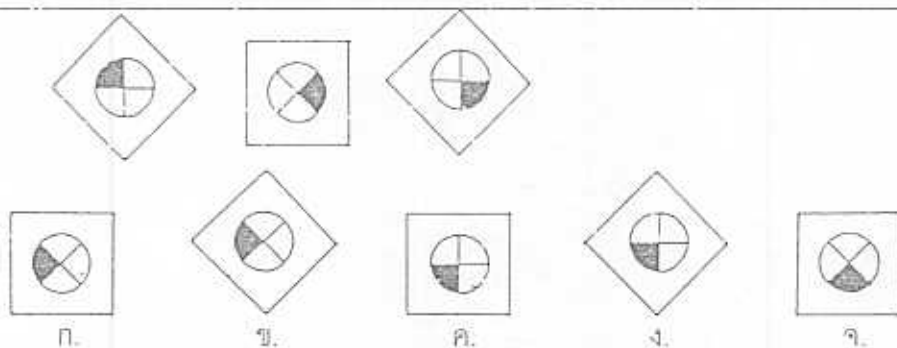
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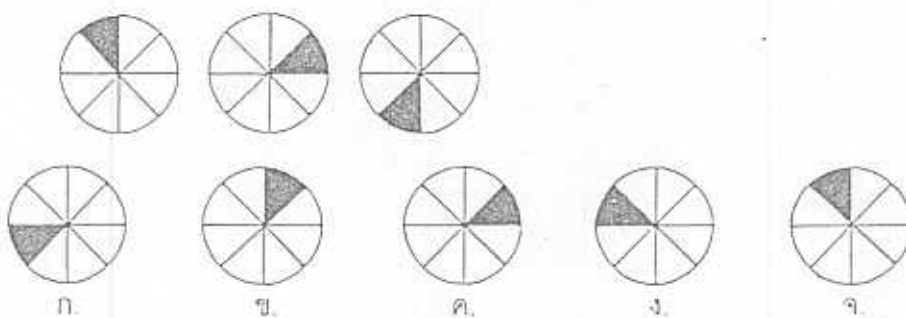
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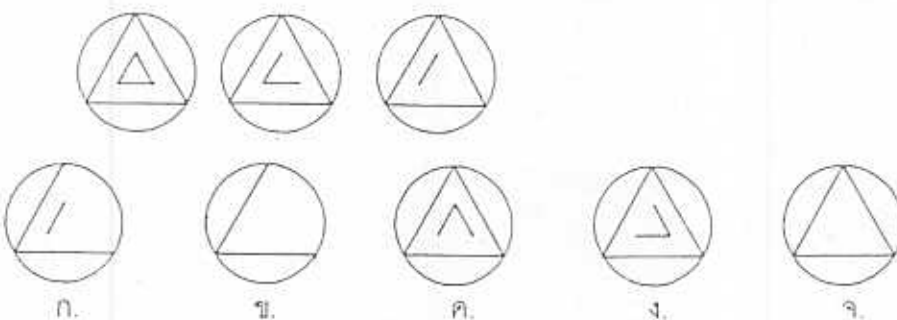
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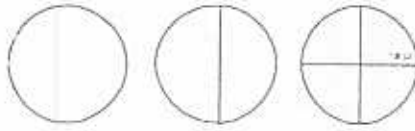


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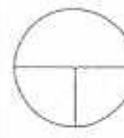
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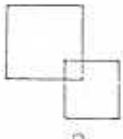
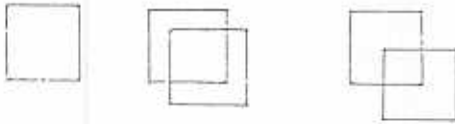


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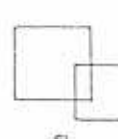


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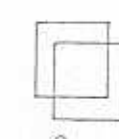
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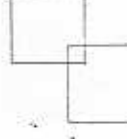
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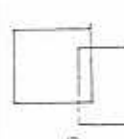
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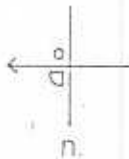
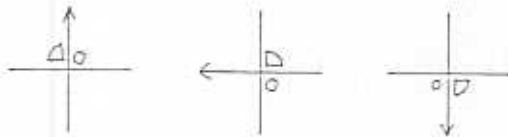


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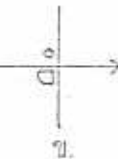


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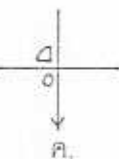
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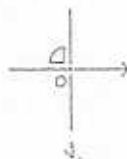
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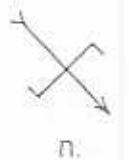


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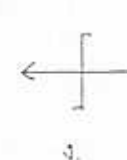
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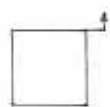
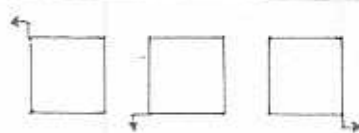


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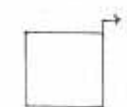


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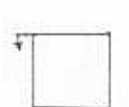
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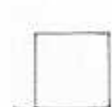
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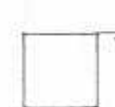
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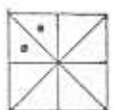
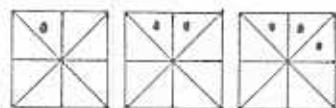


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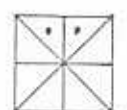


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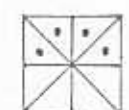
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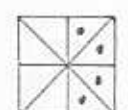
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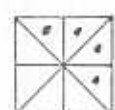
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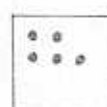
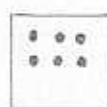
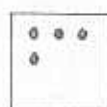
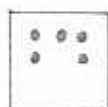
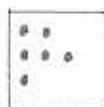
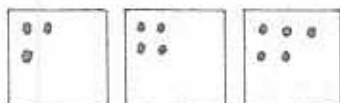


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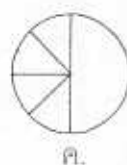
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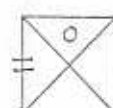
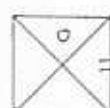
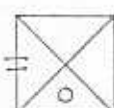
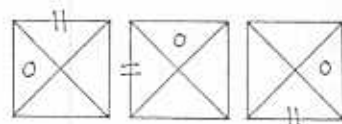
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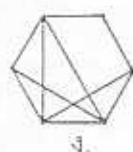
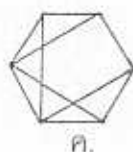
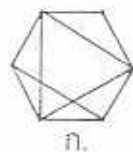
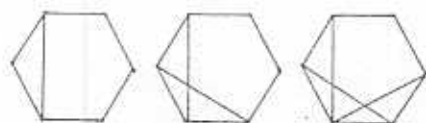
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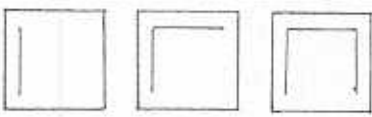


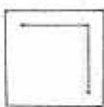
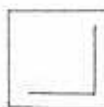
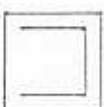
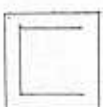
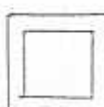
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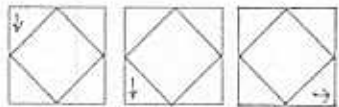
แบบสอบอนุกรมภาพฉบับที่ 1
(ต้นแบบของแบบสอบ)

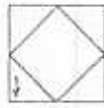
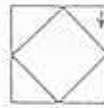
แบบสอบอนุกรม ฉบับที่ 1

1. 

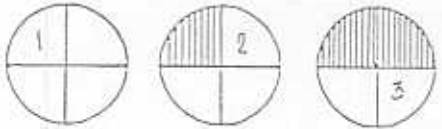
    

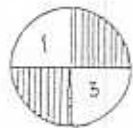
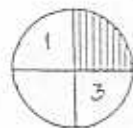
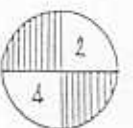
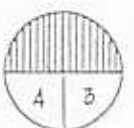
ก. ข. ค. ง. จ.

2. 

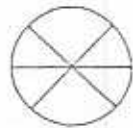
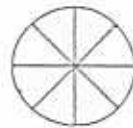
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3. 

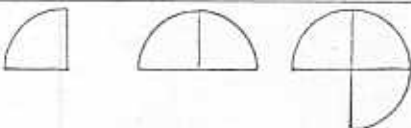
    

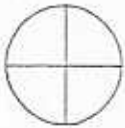
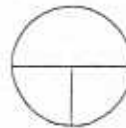
ก. ข. ค. ง. จ.

4. 

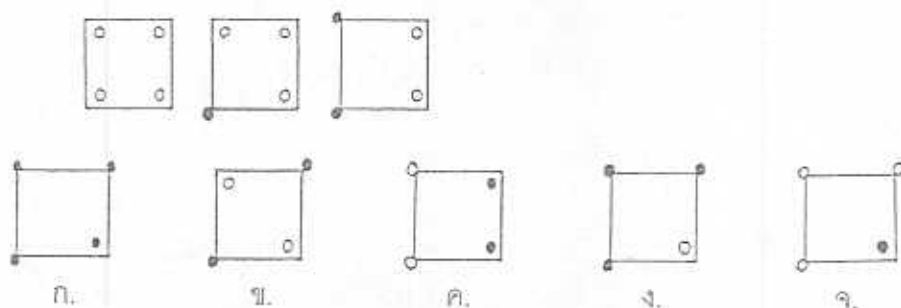
ก. ข. ค. ง. จ.

5. 

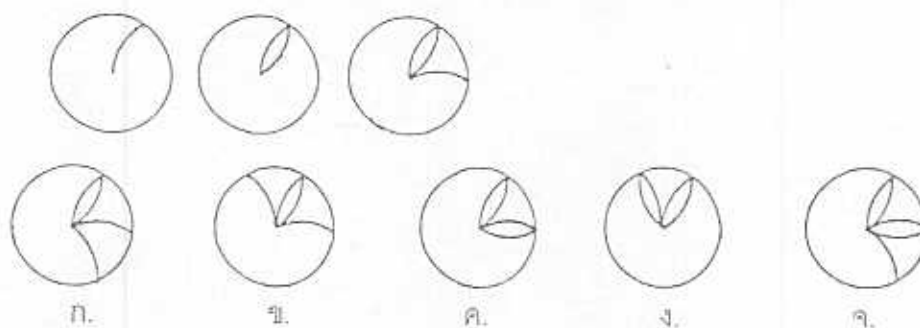
    

ก. ข. ค. ง. จ.

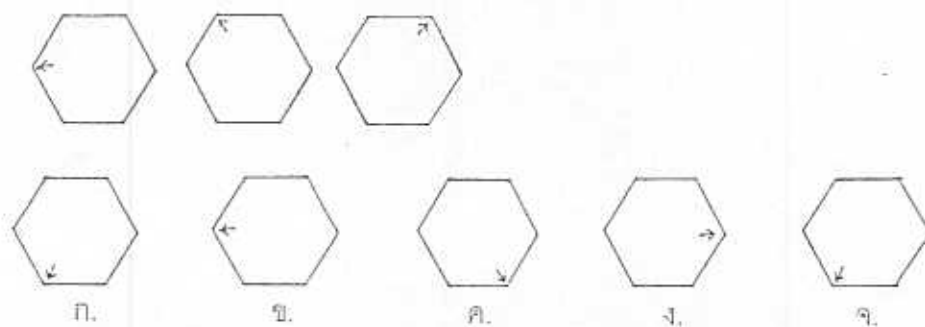
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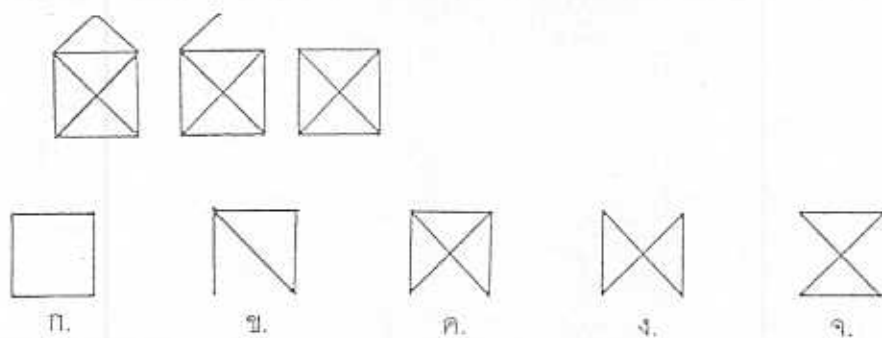
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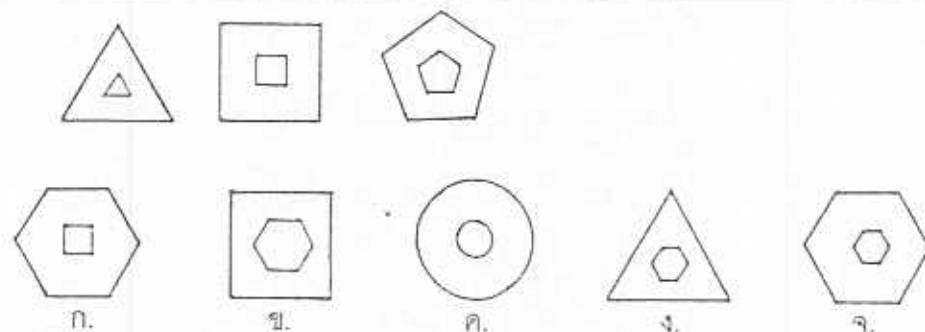
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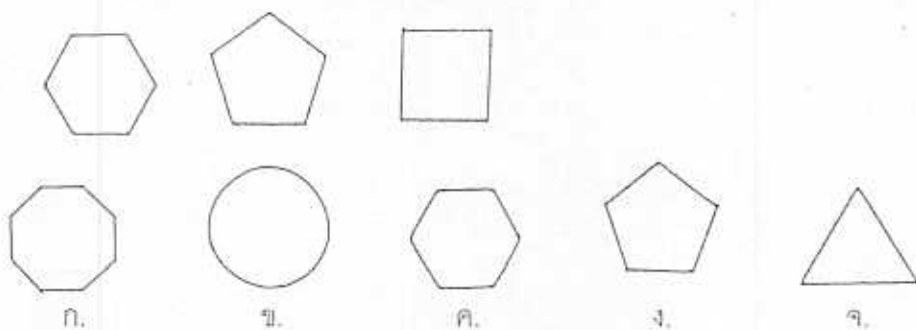
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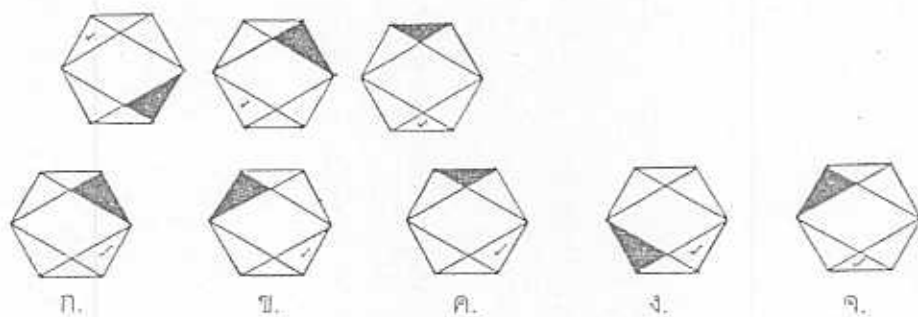
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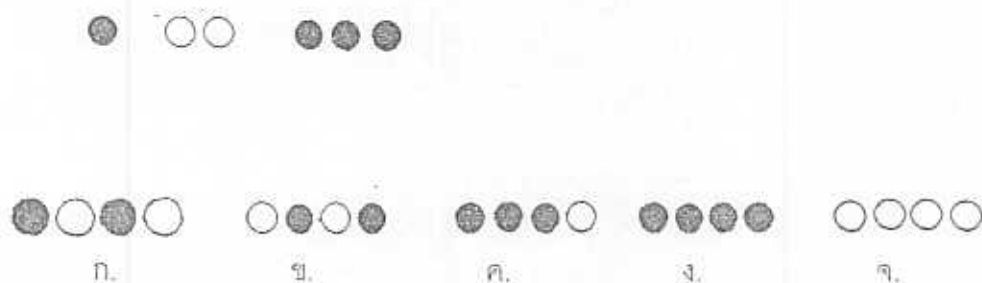
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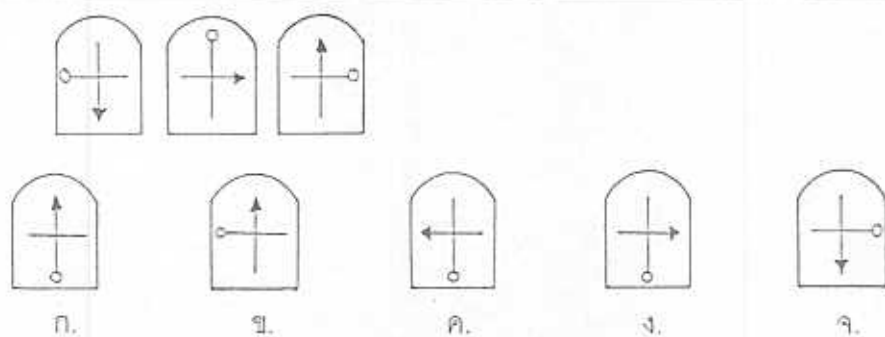
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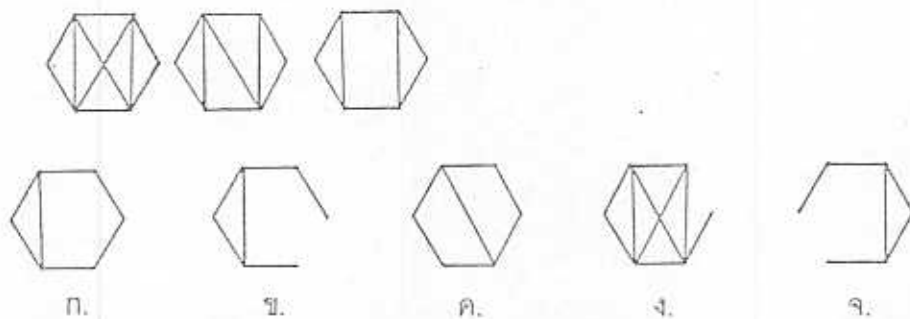
13.



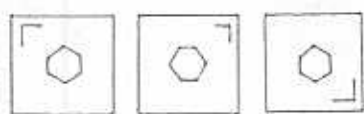
14.



15.



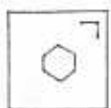
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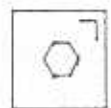
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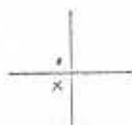


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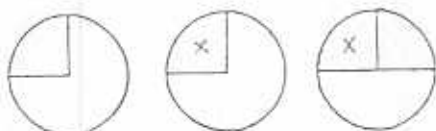


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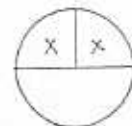
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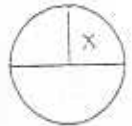
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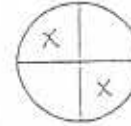
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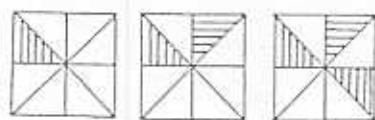


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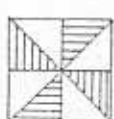
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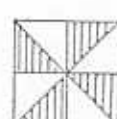
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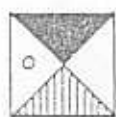


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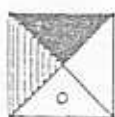


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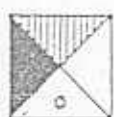
ก.



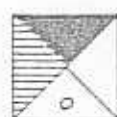
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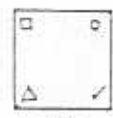
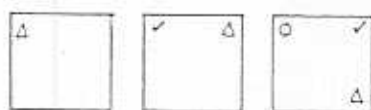


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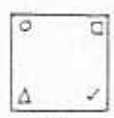
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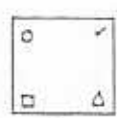
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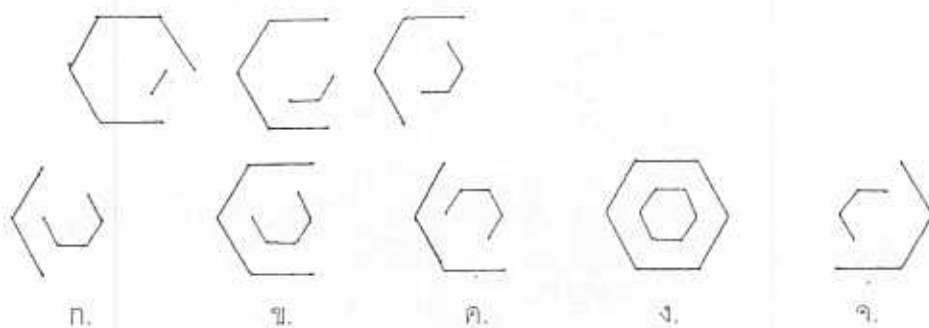


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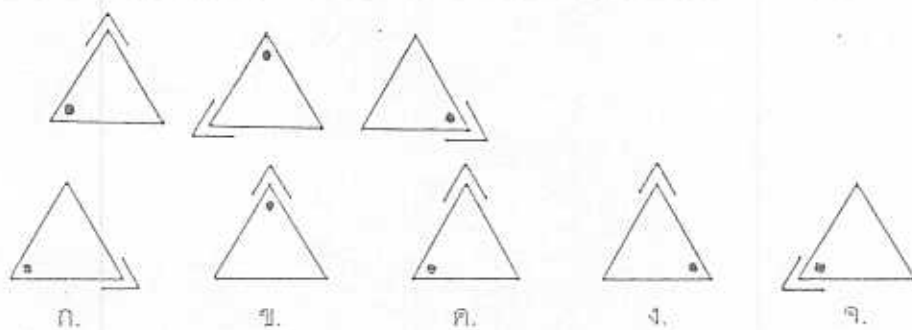


จ.

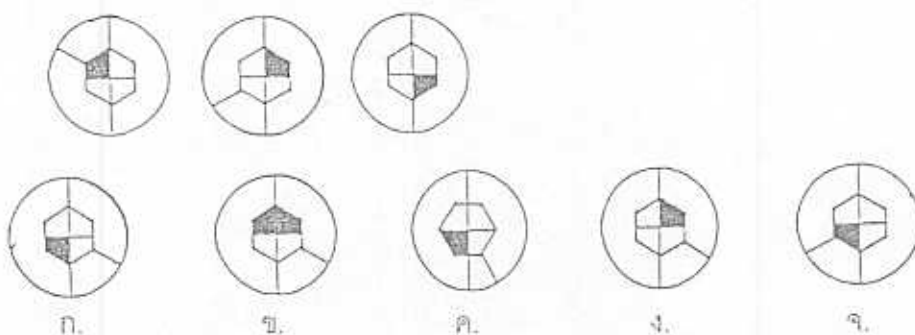
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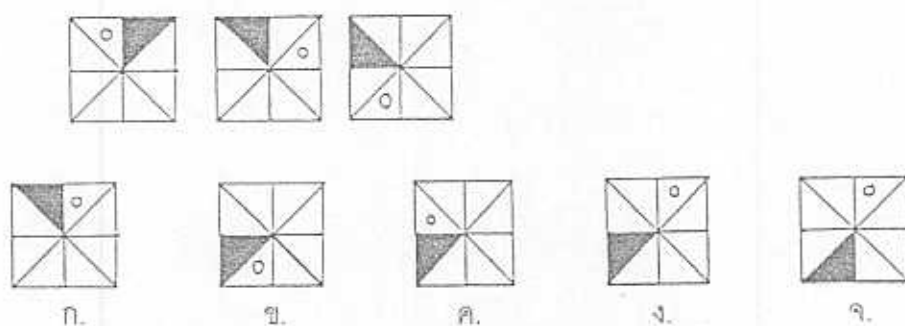
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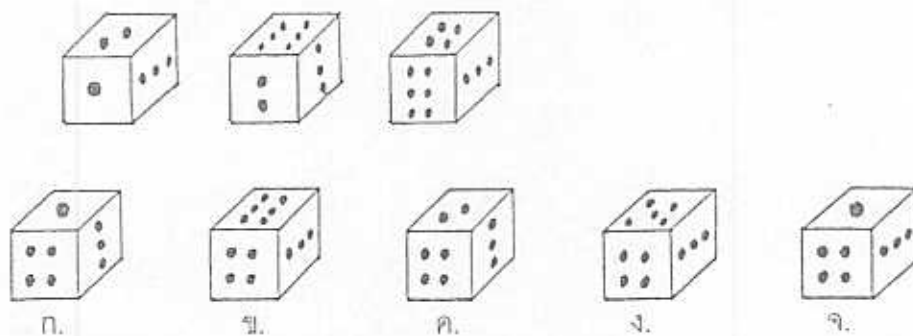
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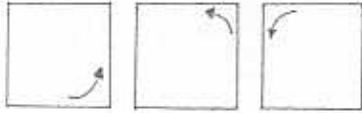
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30.



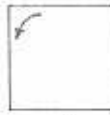
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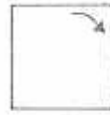
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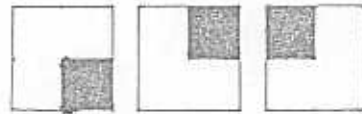


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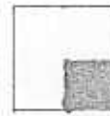
32.



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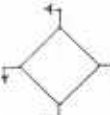
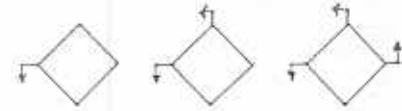


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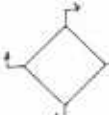


จ.

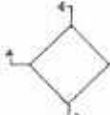
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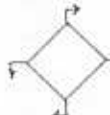
ก.



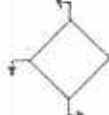
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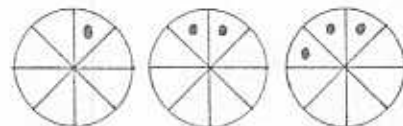


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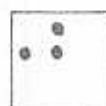
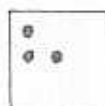
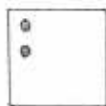
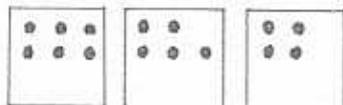


จ.

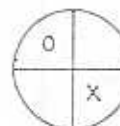
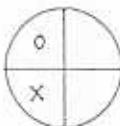
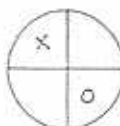
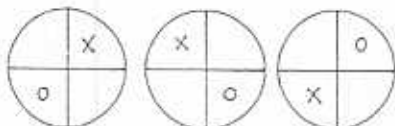
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37.



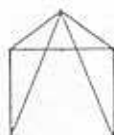
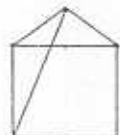
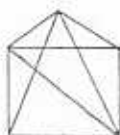
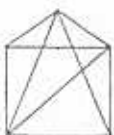
38.



39.



40.



แบบสอบถามกรมภาพปีที่ 2
(ต้นแบบของแบบสอบถาม)

แบบสอบอนุกรม ฉบับที่ 2

1.

ก. ข. ค. ง. จ.

2.

ก. ข. ค. ง. จ.

3.

ก. ข. ค. ง. จ.

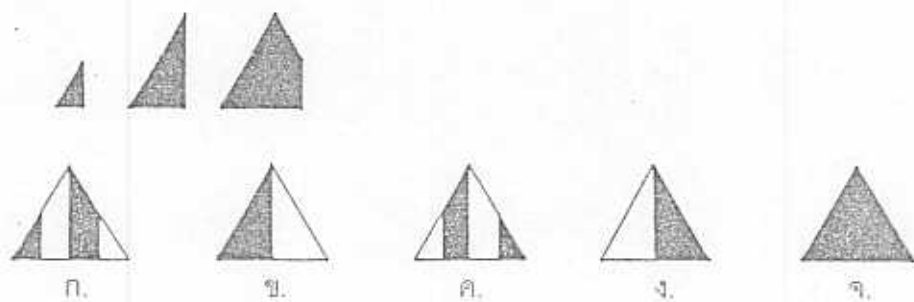
4.

ก. ข. ค. ง. จ.

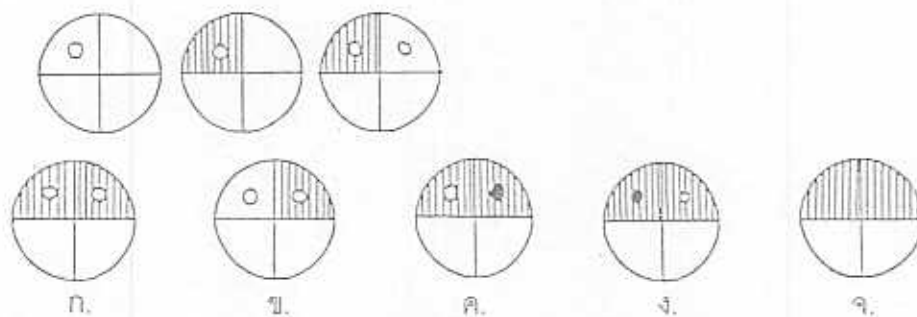
5.

ก. ข. ค. ง. จ.

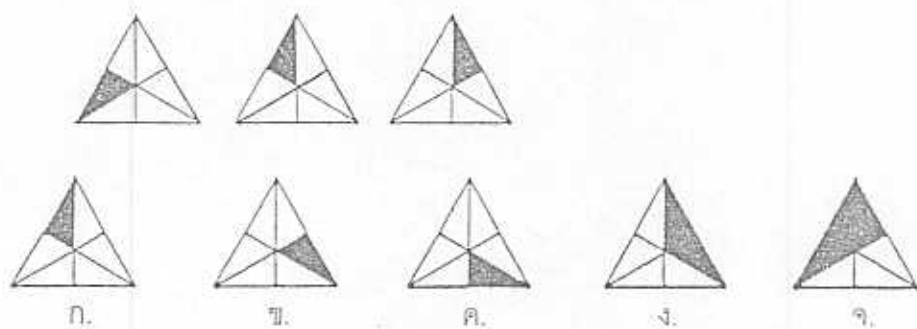
6.



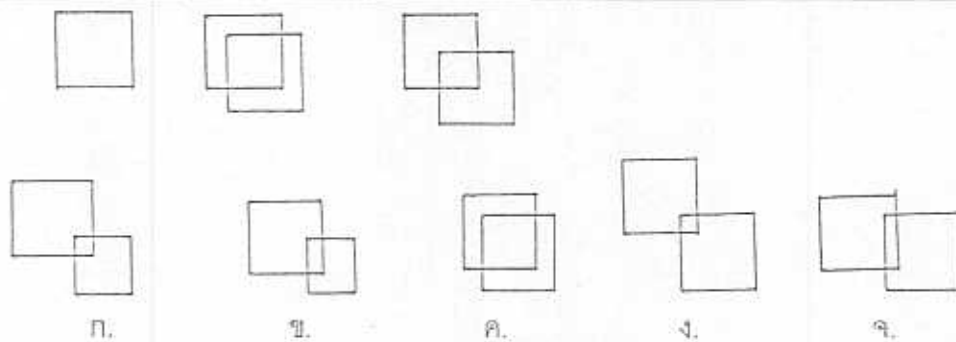
7.



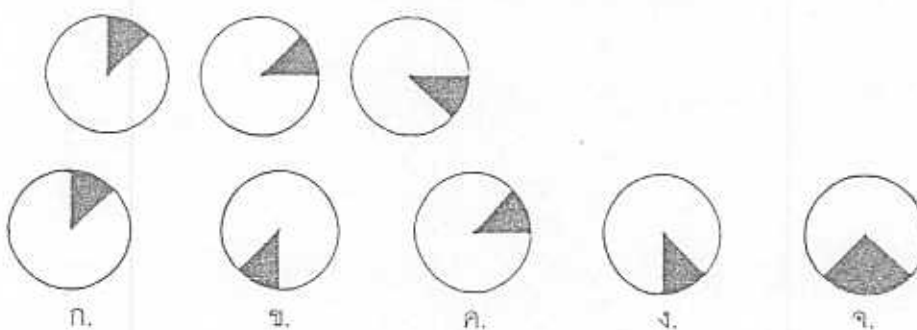
8.



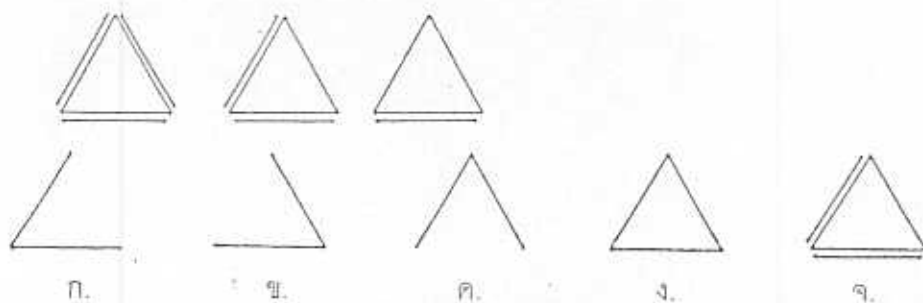
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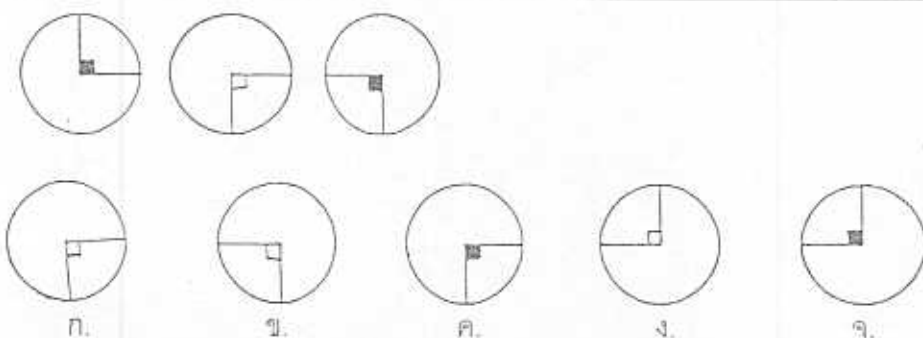
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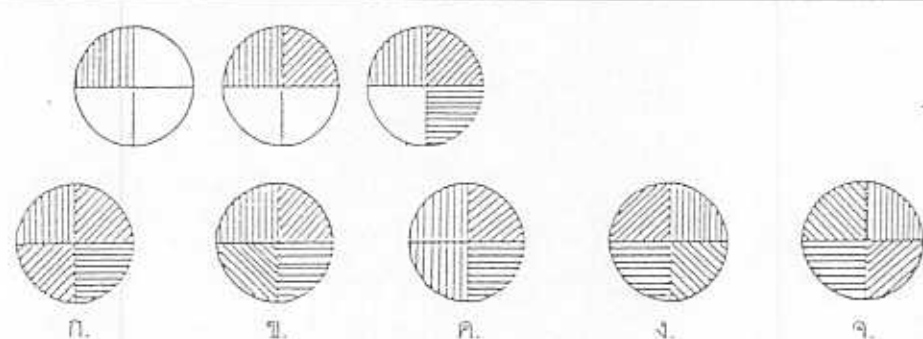
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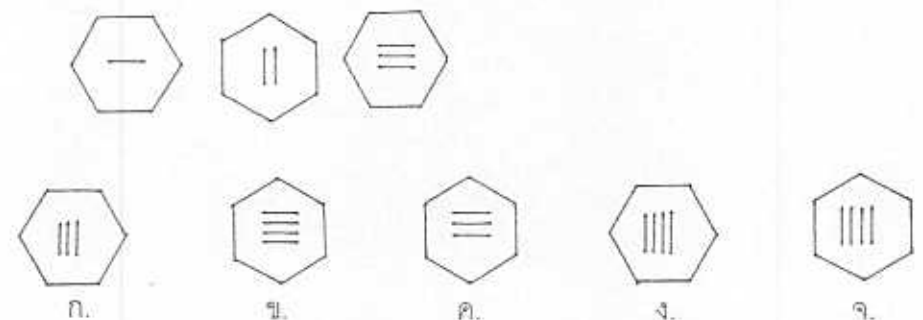
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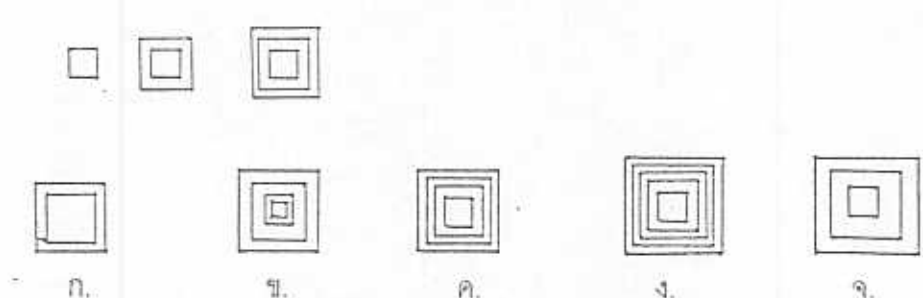
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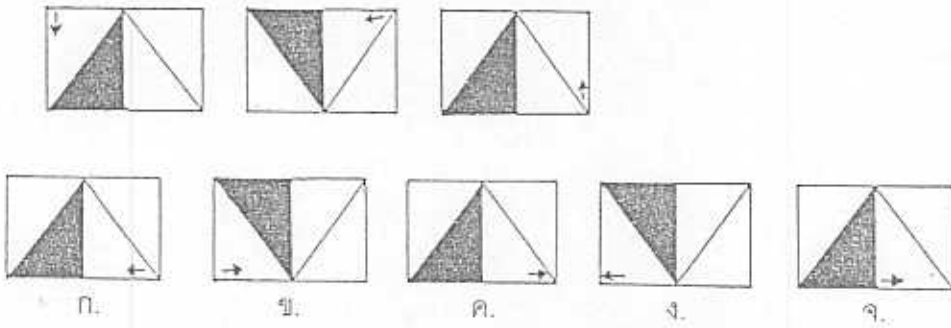
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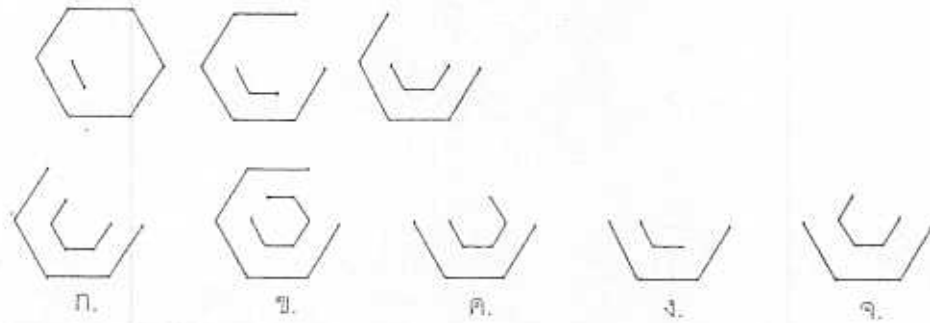
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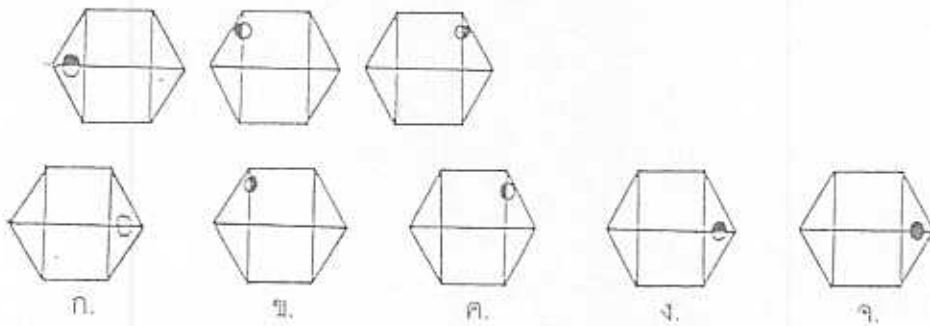
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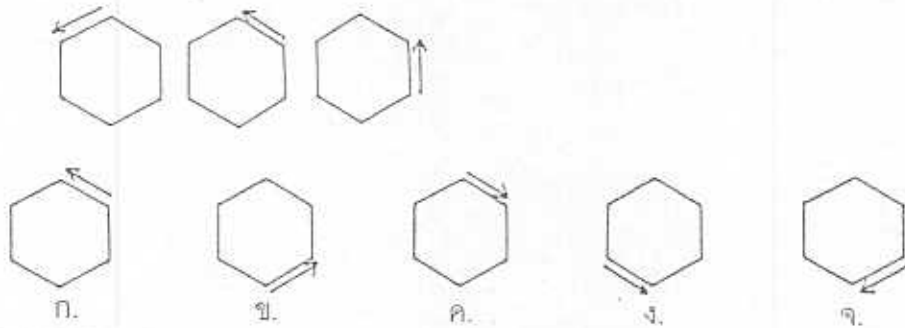
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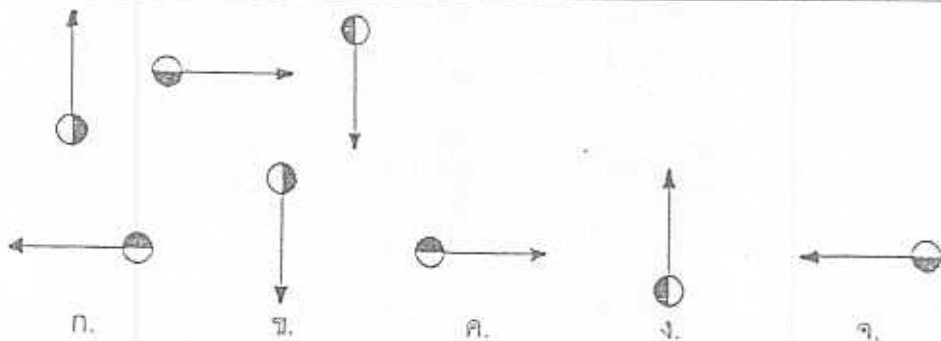
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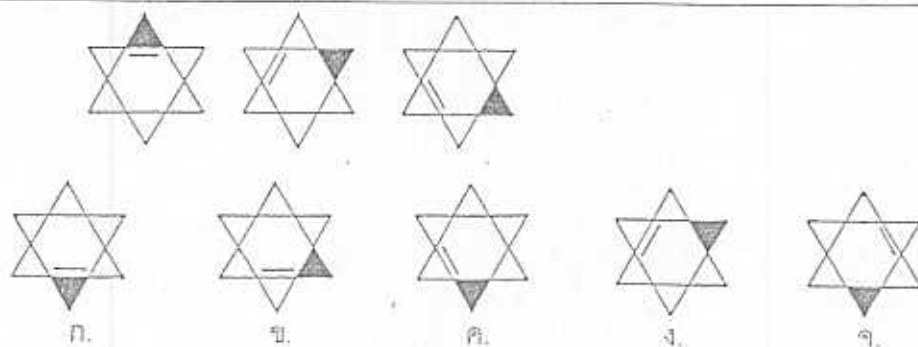
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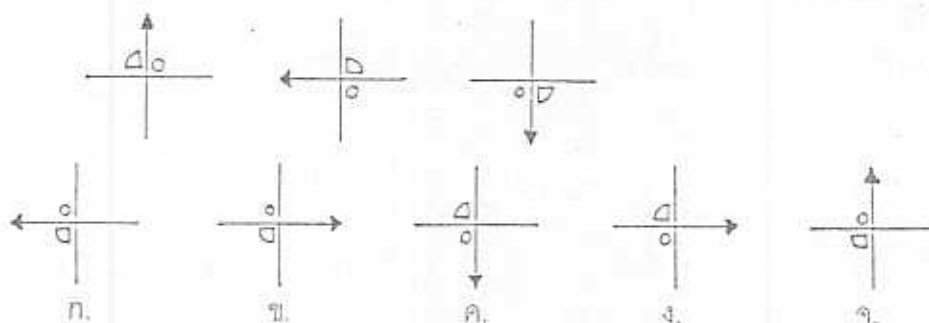
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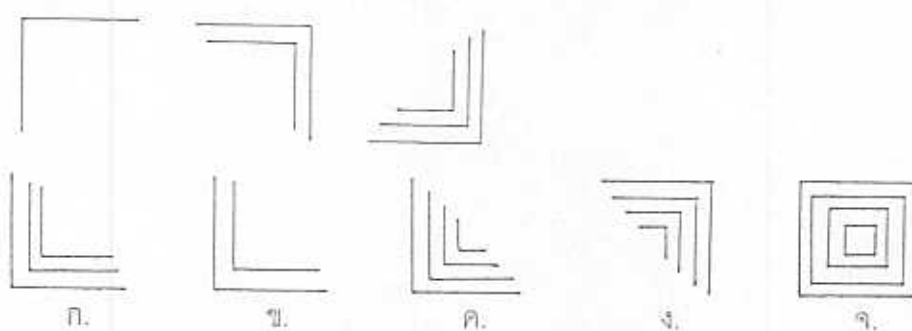
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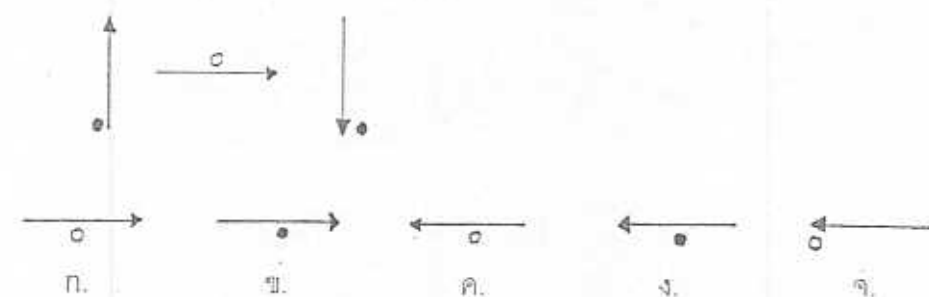
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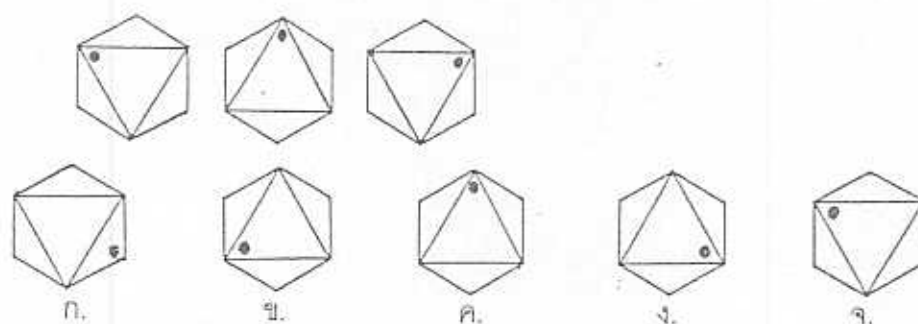
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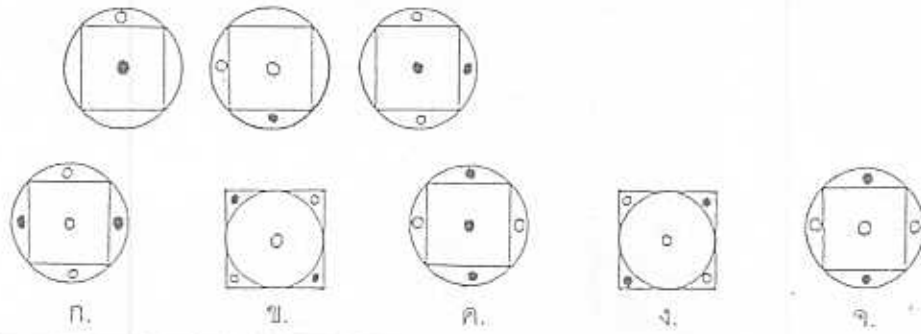
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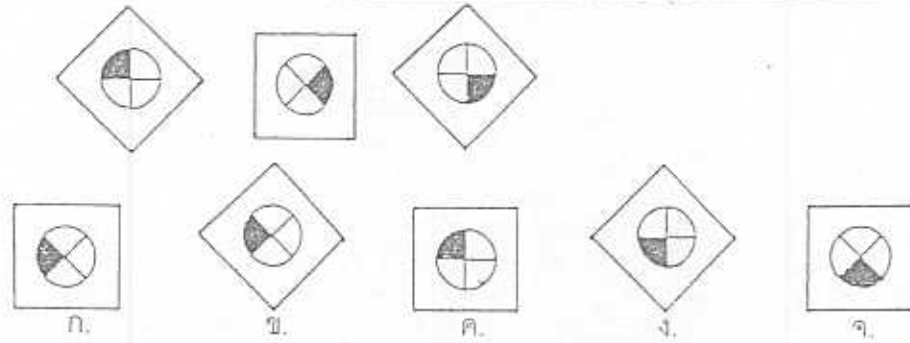
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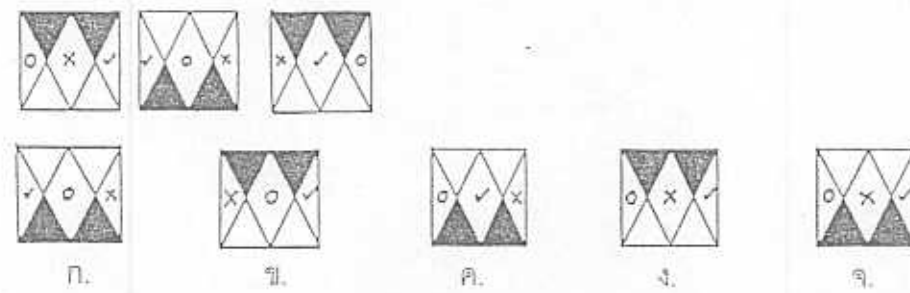
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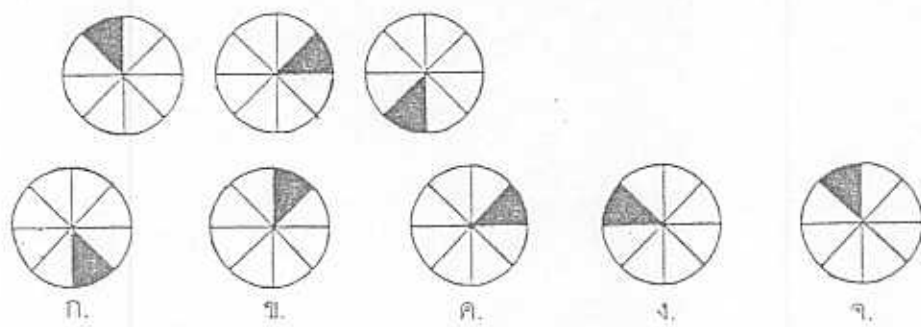
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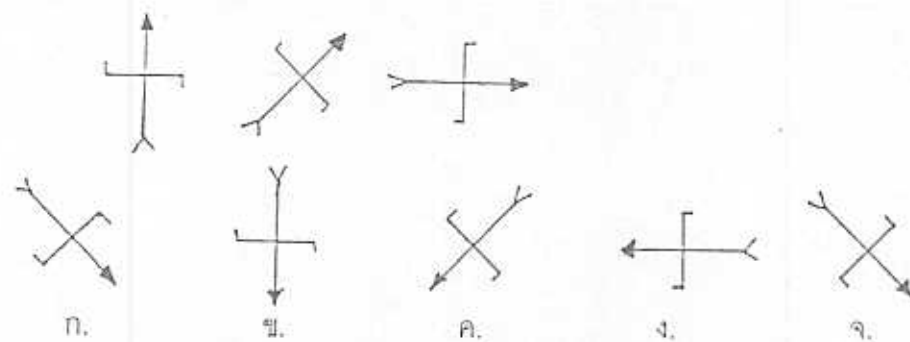
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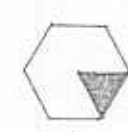
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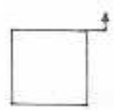
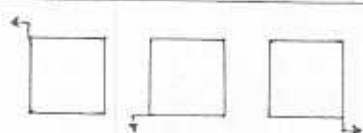


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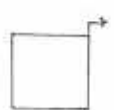


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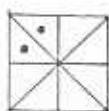
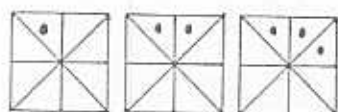


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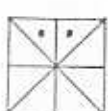


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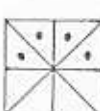
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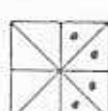
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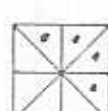
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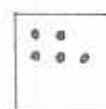
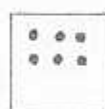
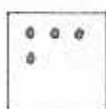
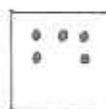
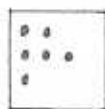


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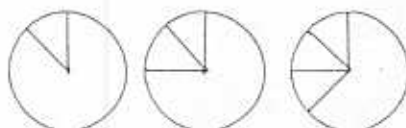
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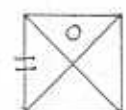
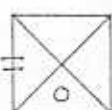
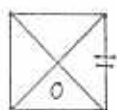
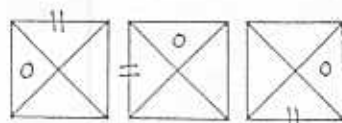
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