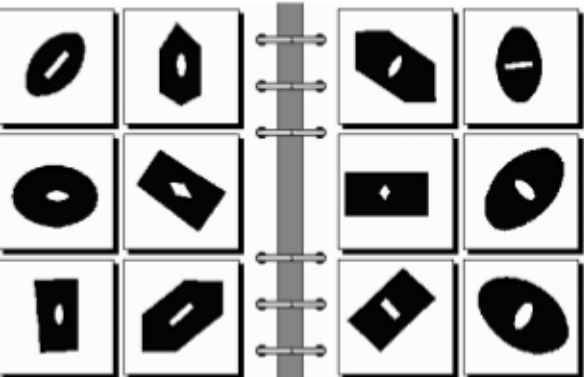


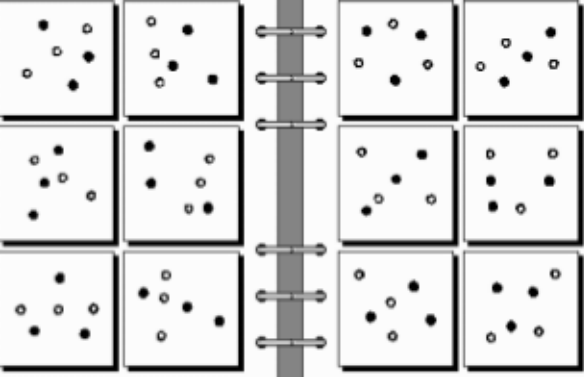
More circles inside the

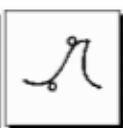
Four circles inside

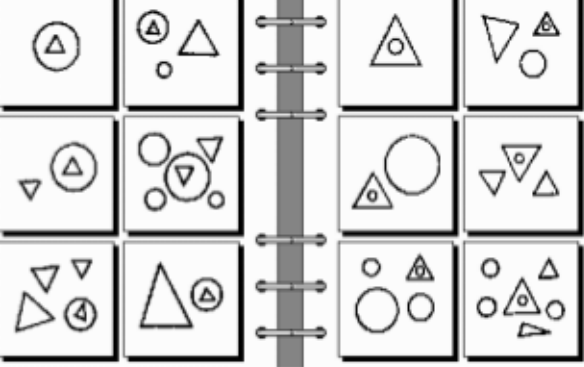






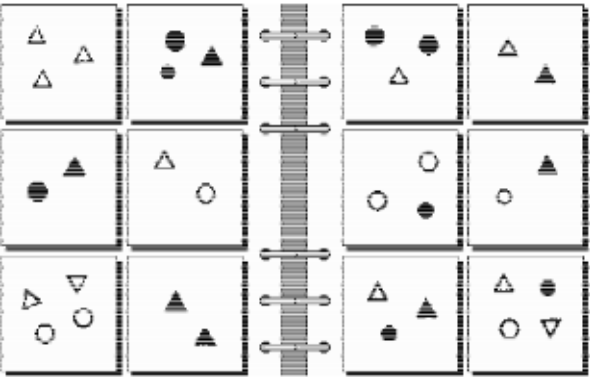


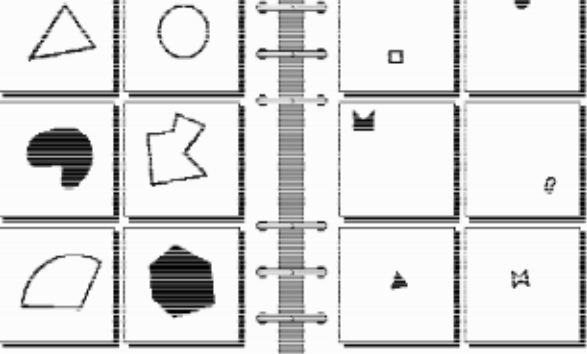






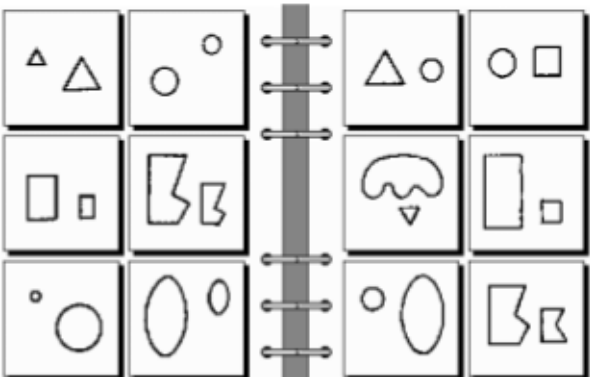


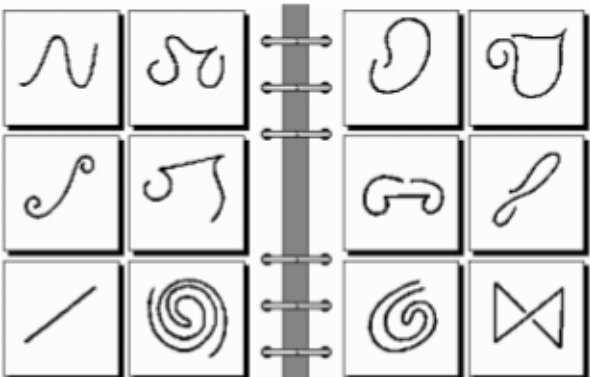




Large figures

Small figures









f



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f



f



f



f



f



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f



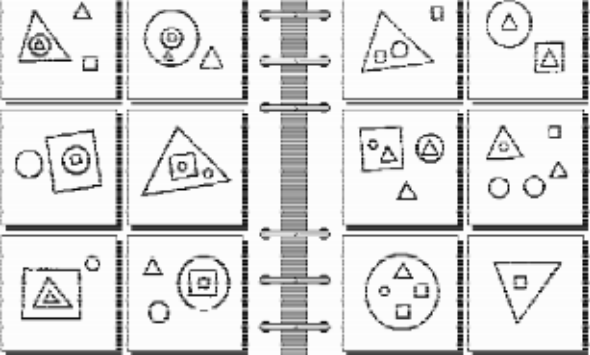
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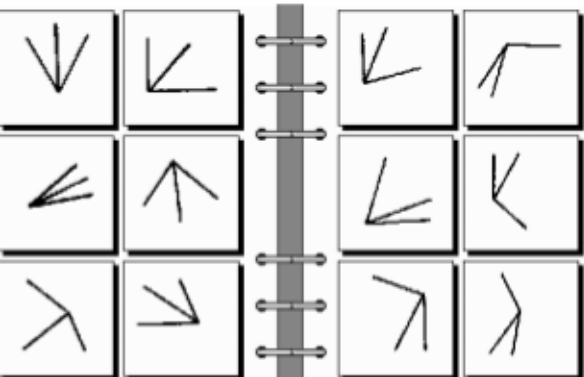
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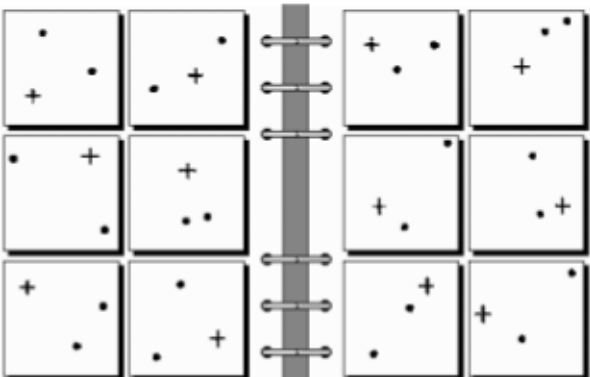


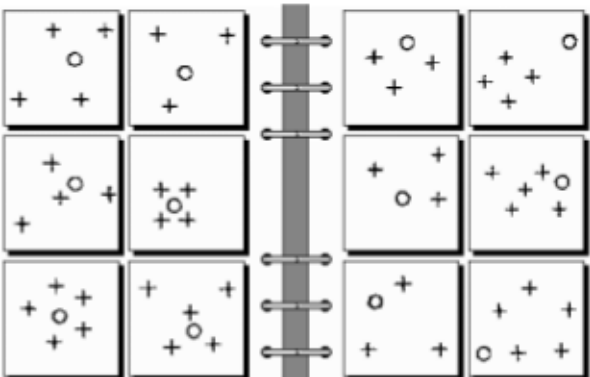
Two levels of inside-ness

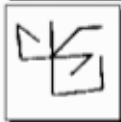
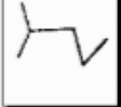
One level of



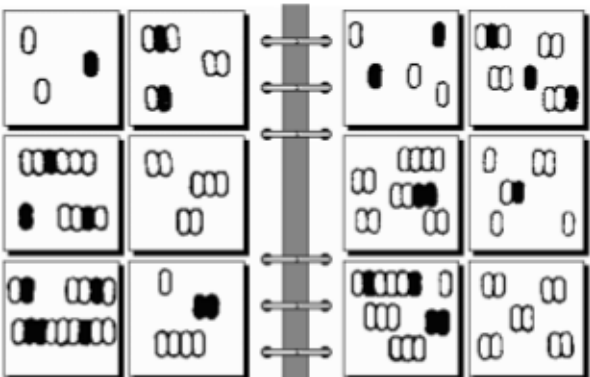


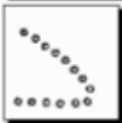














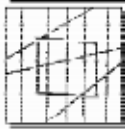
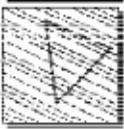
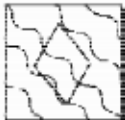
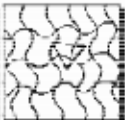
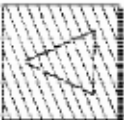
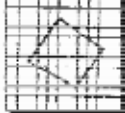
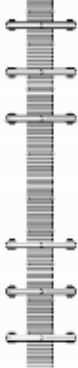
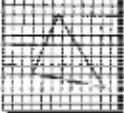
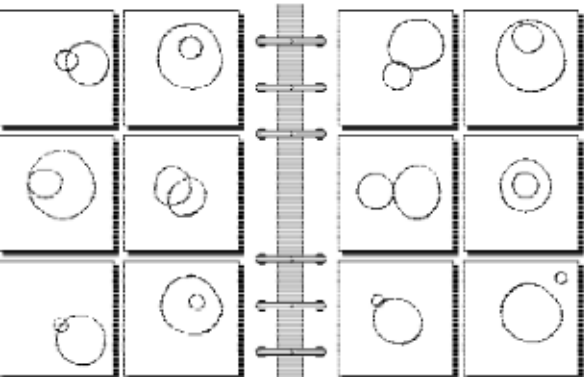


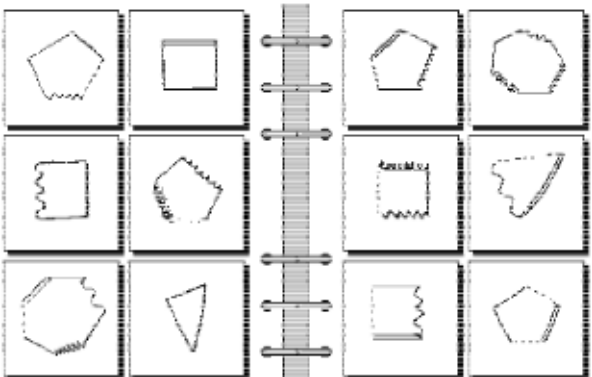
Figure 1. A

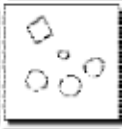
Figure 2. B

Figure 3. C









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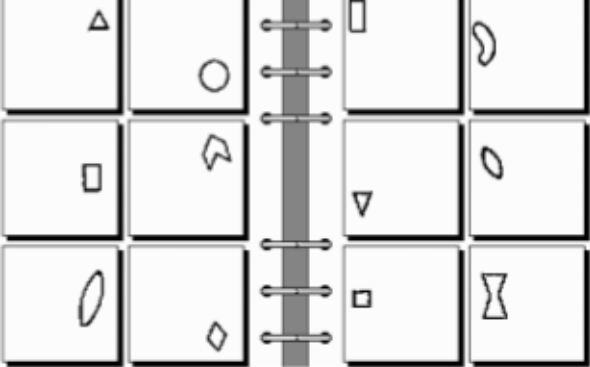
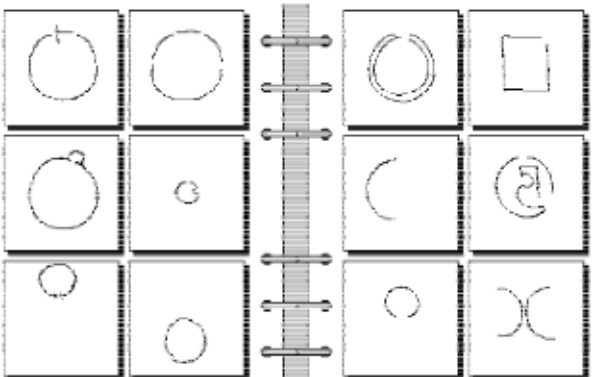


Figure 1: A notebook with a 3x2 grid of shapes.

Figure 2: A notebook with a 3x2 grid of shapes.

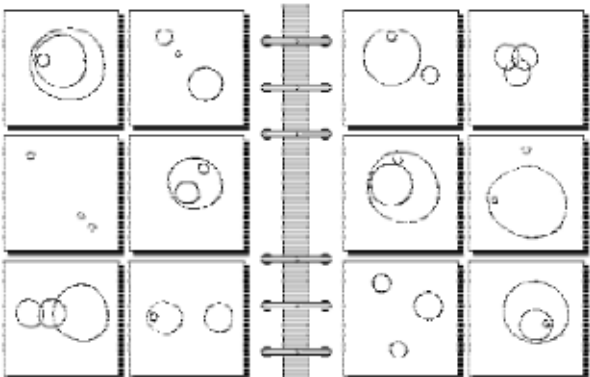






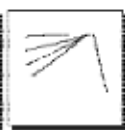


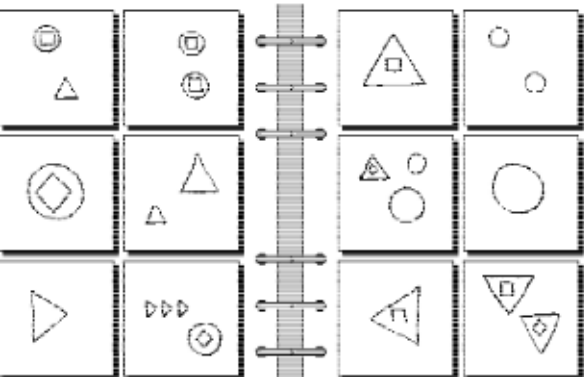


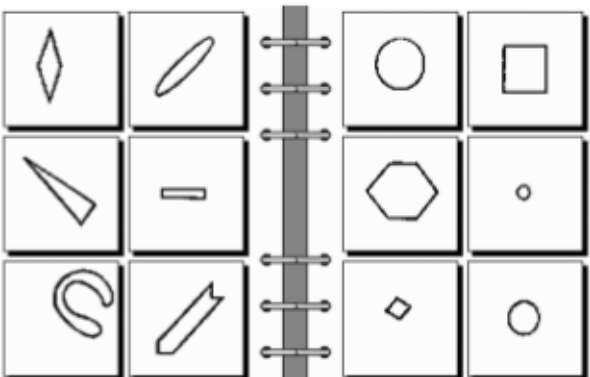


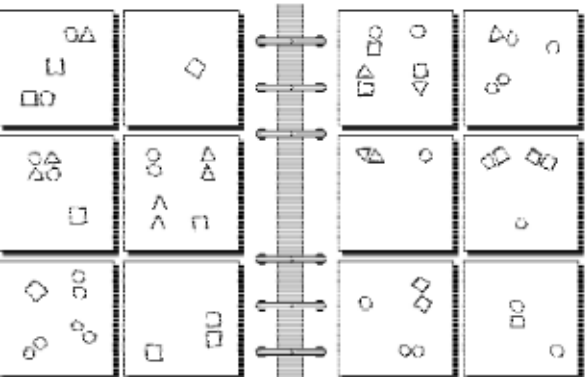














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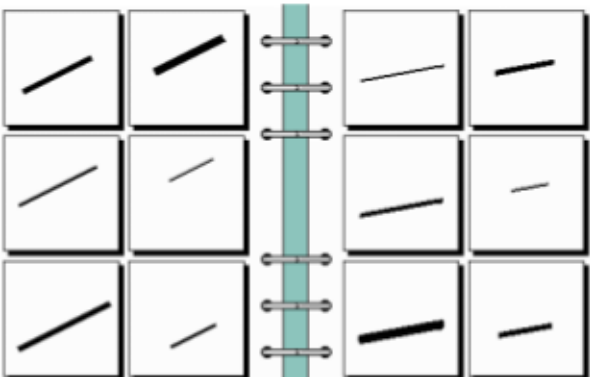
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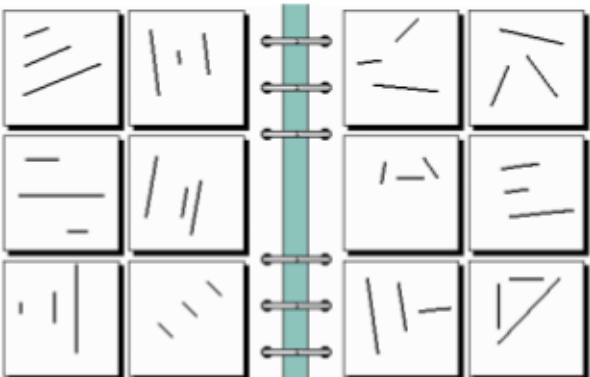
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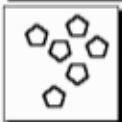
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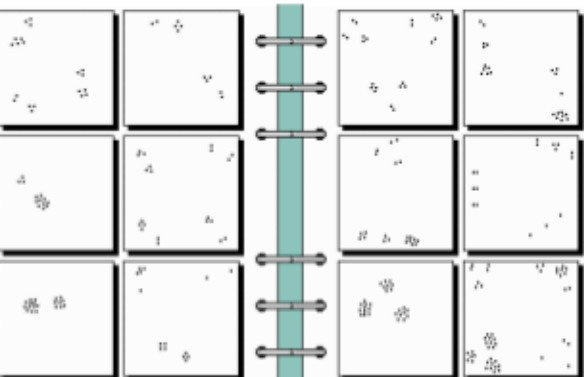
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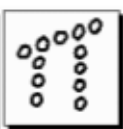
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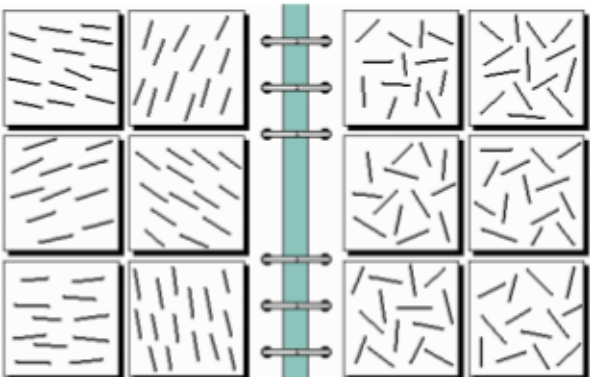


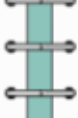
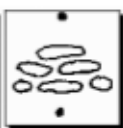
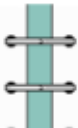
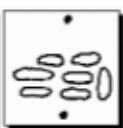
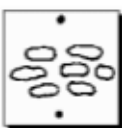


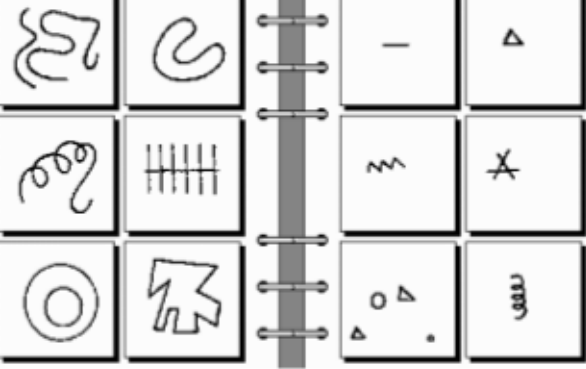


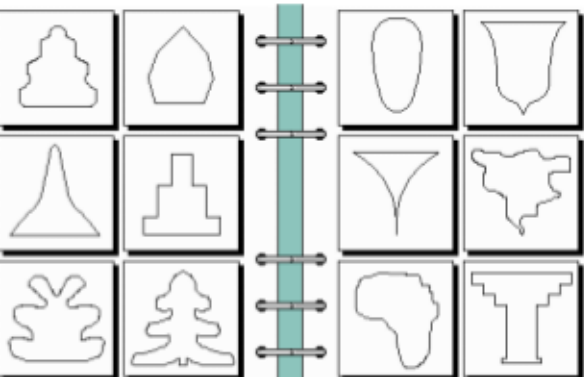


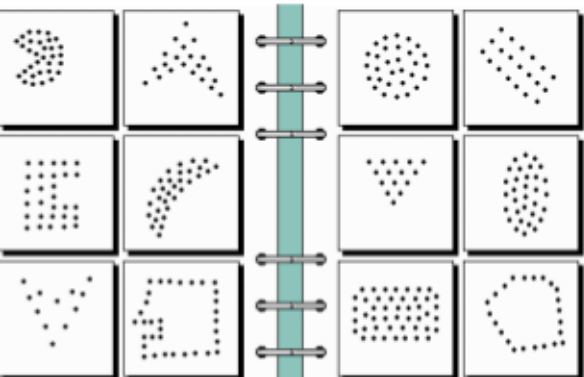


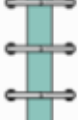
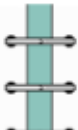


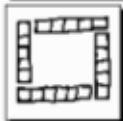
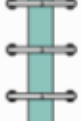
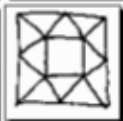
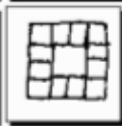
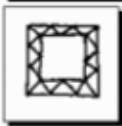
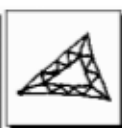
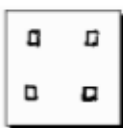
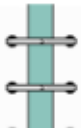
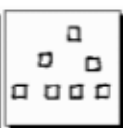
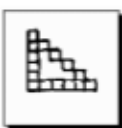


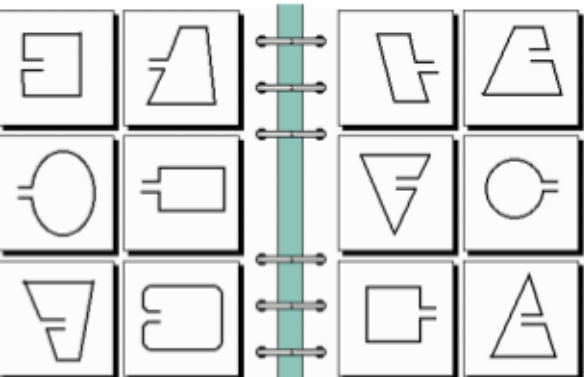


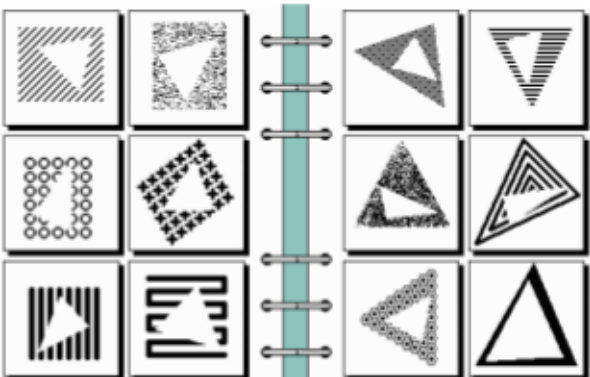












woven

silk

woven

silk

pyjamas

exchanged

pyjamas

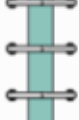
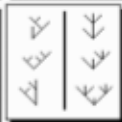
exchanged

for blue

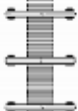
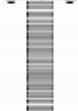
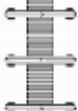
quartz

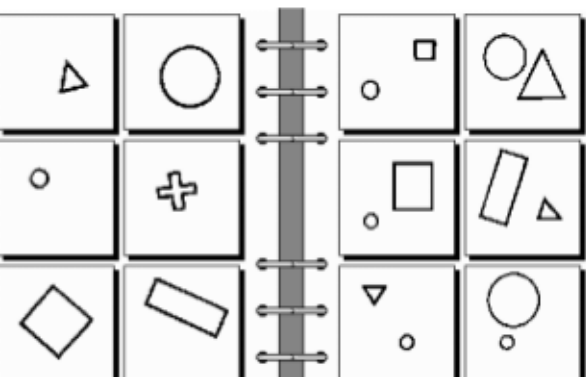
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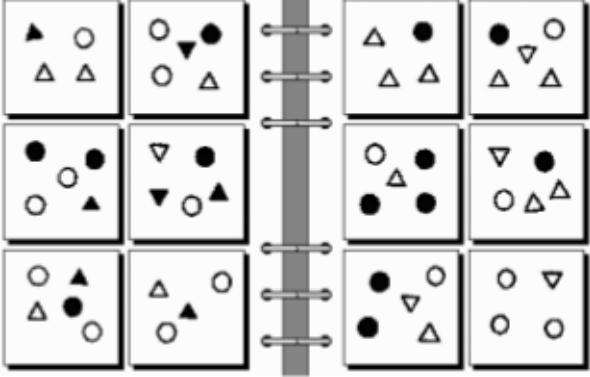
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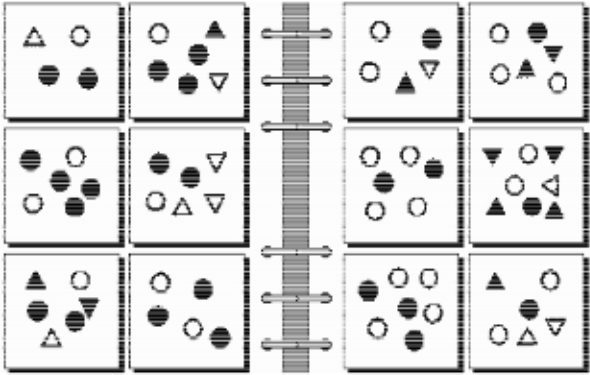




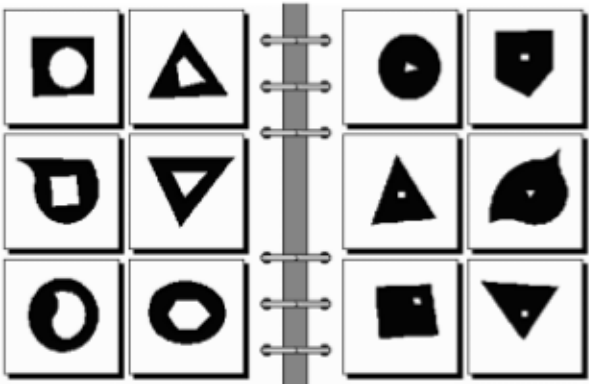


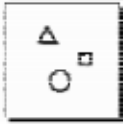
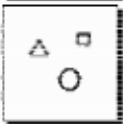
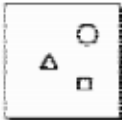


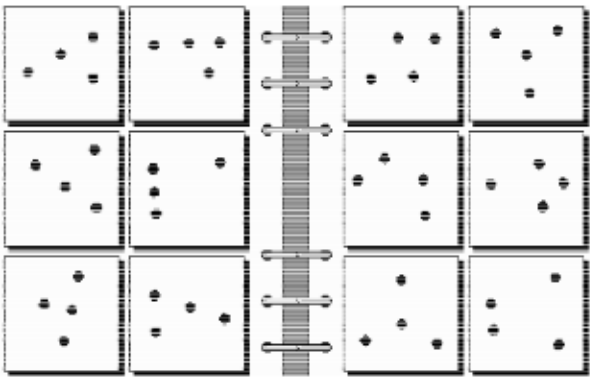


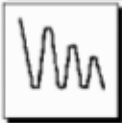
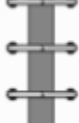
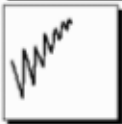
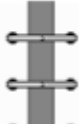
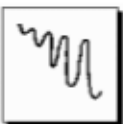
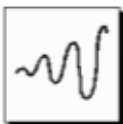


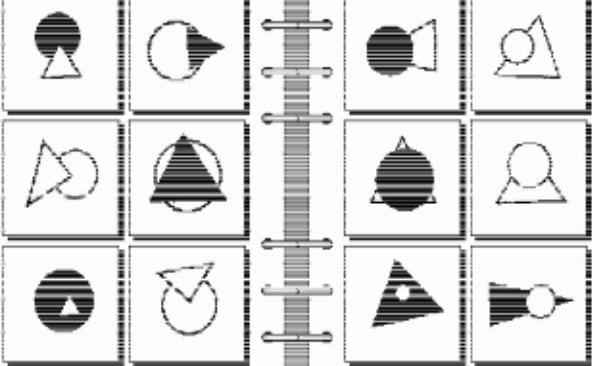






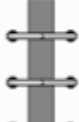


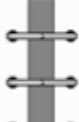




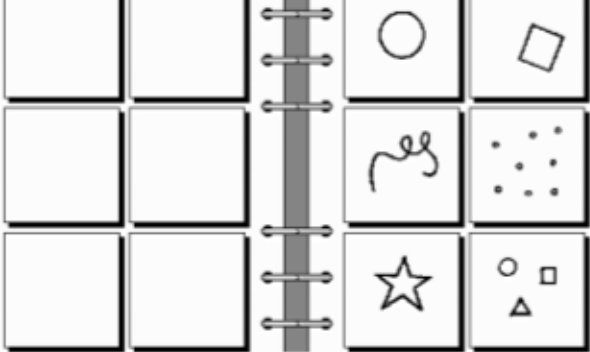
Triangle on top

Circle on top



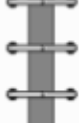
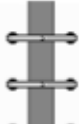


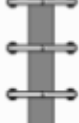
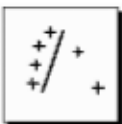
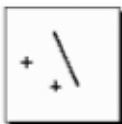
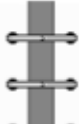
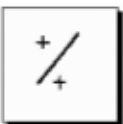


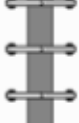


Empty picture

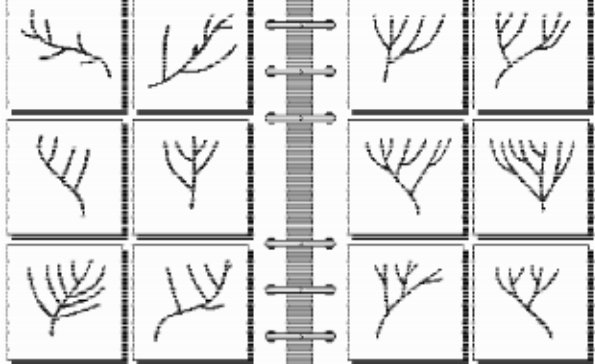
Not empty picture





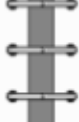
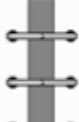


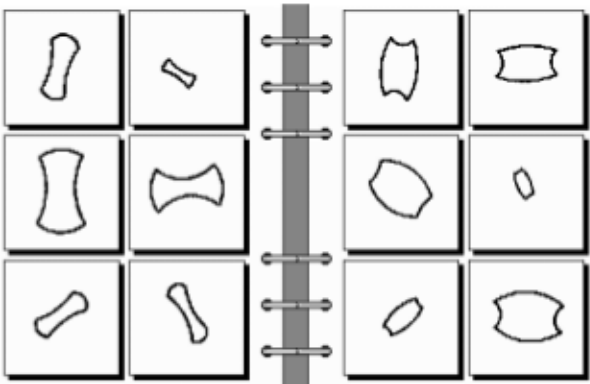


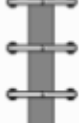
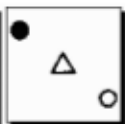
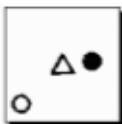
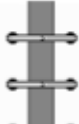
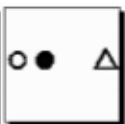
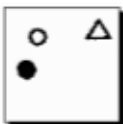


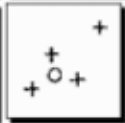
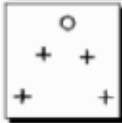
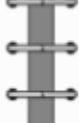
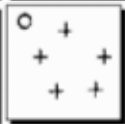
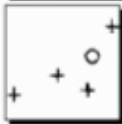
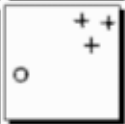
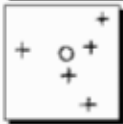
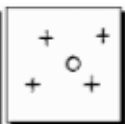
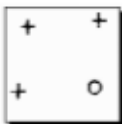
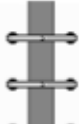
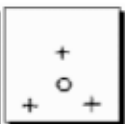
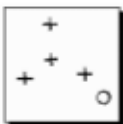
One level of branching

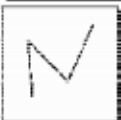
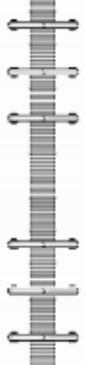
Two levels of







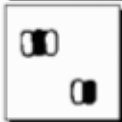
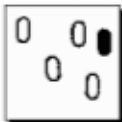
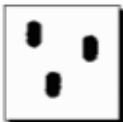




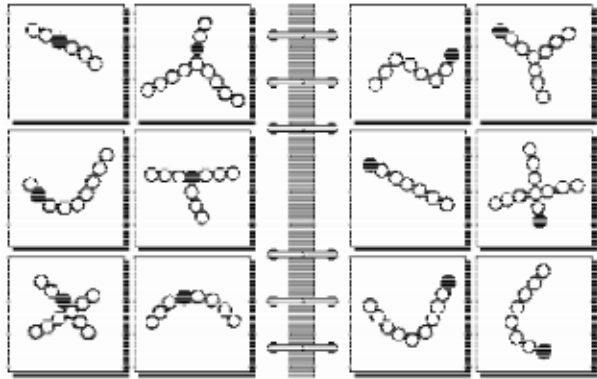
Three lines

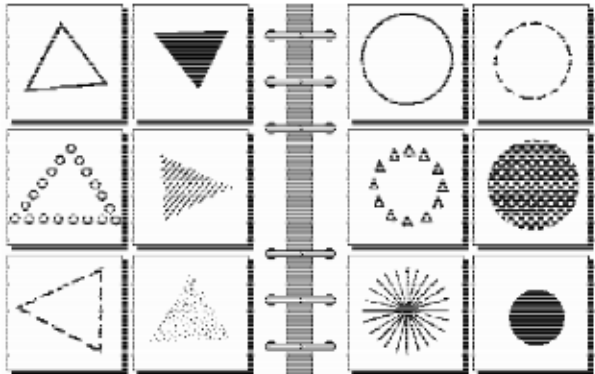
Five lines











A

A

Б

Б

А

A

Б

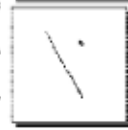
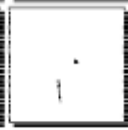
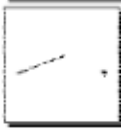
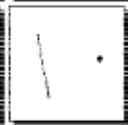
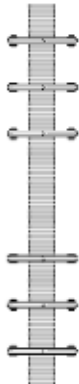
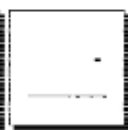
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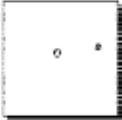
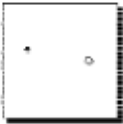
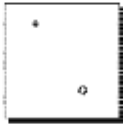
А

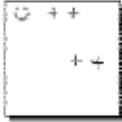
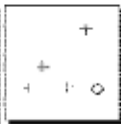
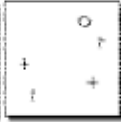
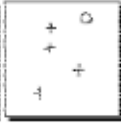
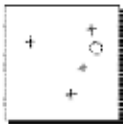
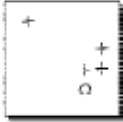
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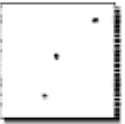
Б

Б

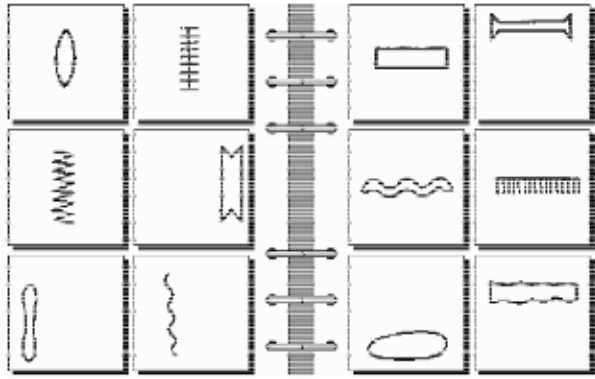














VVVA
○ □

LVAA
▽

AVA
□

VVVV
▽ ▽

LVAV

VVAVV
○ ○

VVVAA
▽ ○

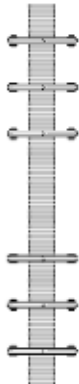
VAVAA

VAAVA
□ ▽

VAV
□

AAAV
○ □

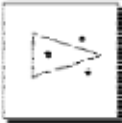
VVV
▽

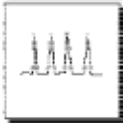
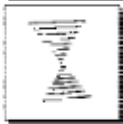




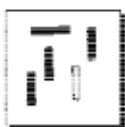
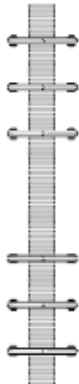


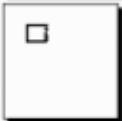




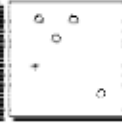
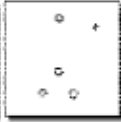
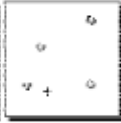
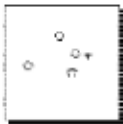
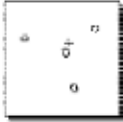








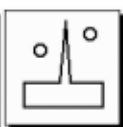
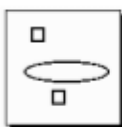
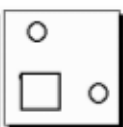


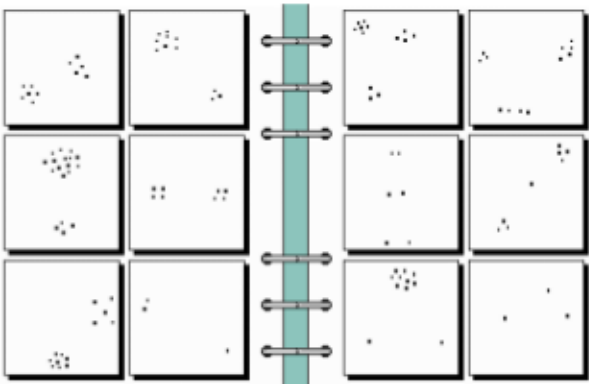






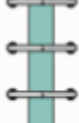
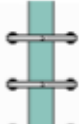


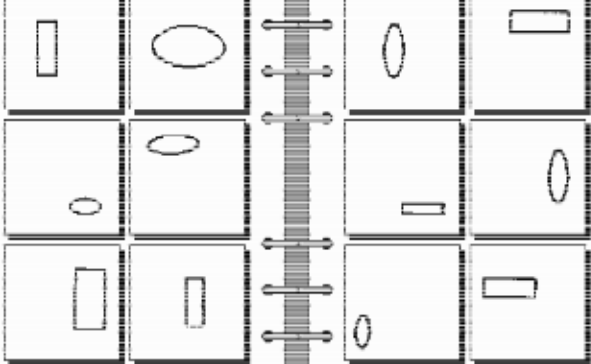






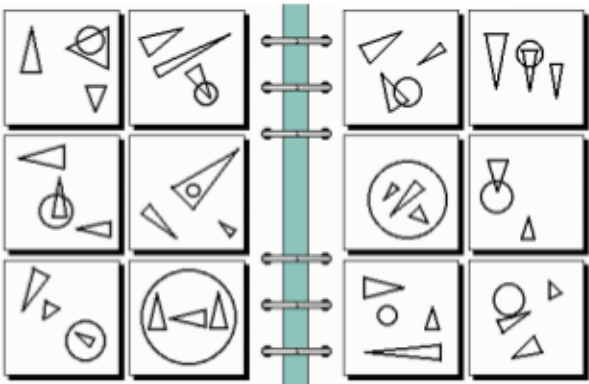




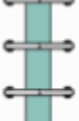
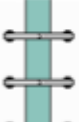


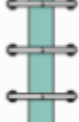
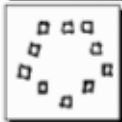
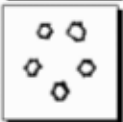
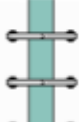
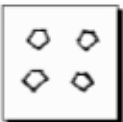
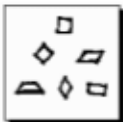
Vertical rectangles or

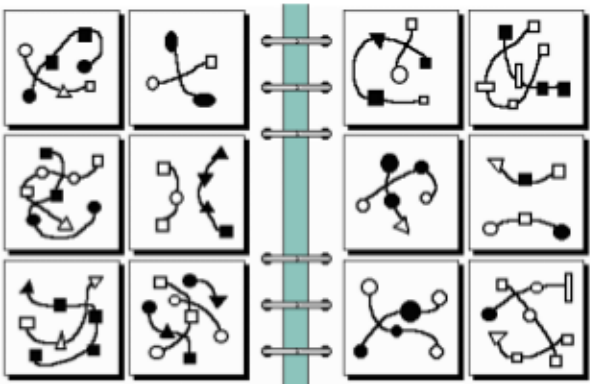
Horizontal rectangles

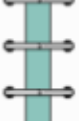
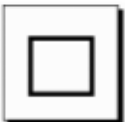
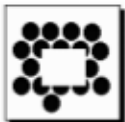
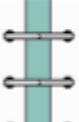


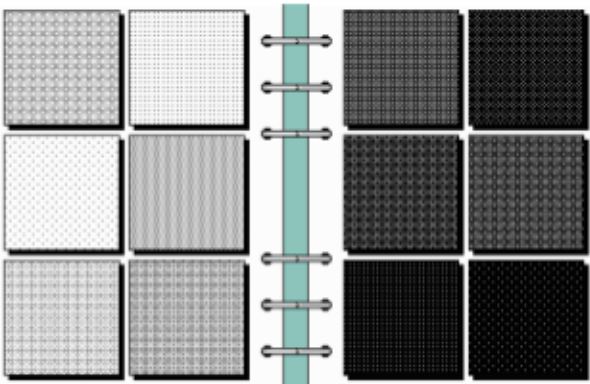


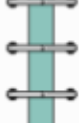
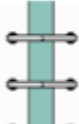




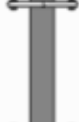
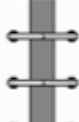


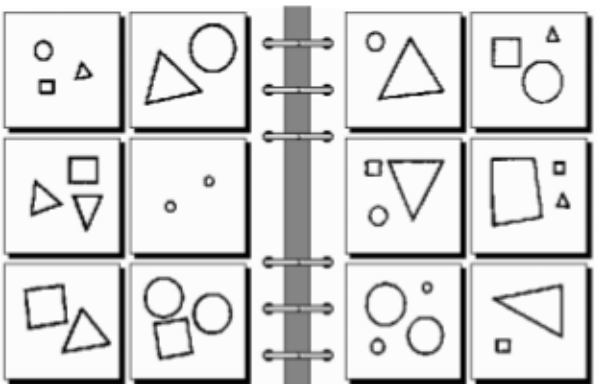












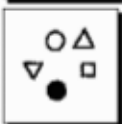
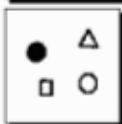
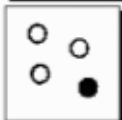
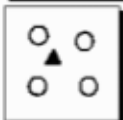
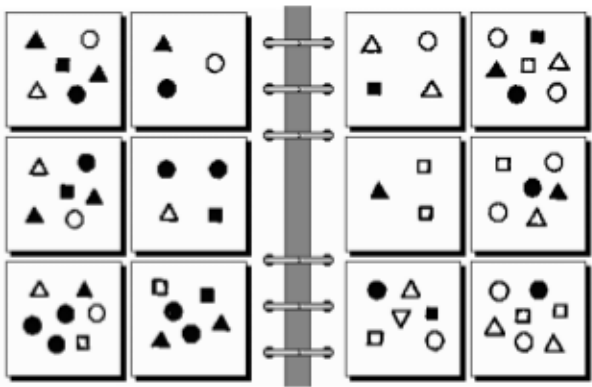


FIG. 1.2

FIG. 1.3

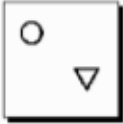
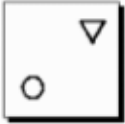
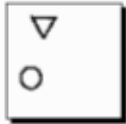
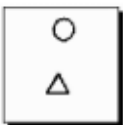
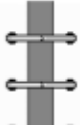
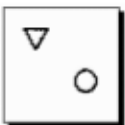
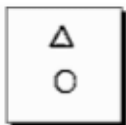
FIG. 1.4

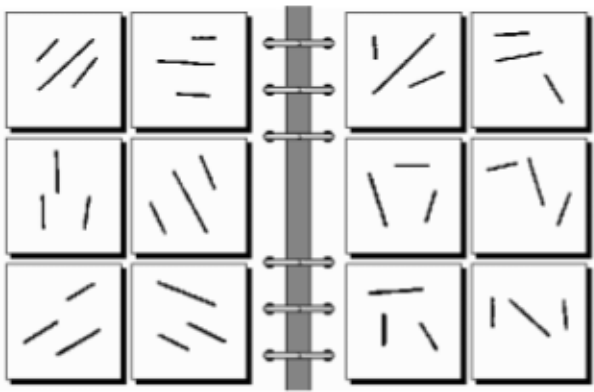
FIG. 1.5



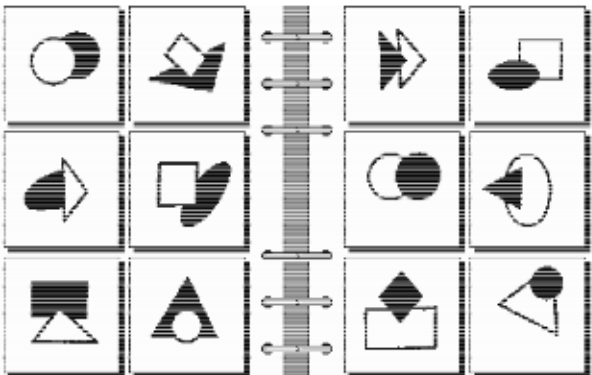






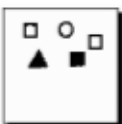
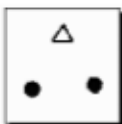
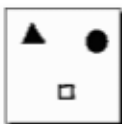


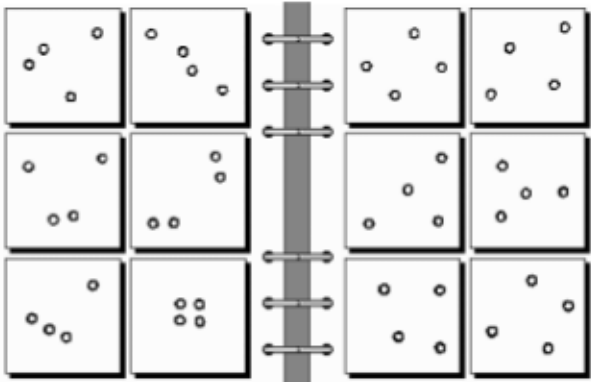


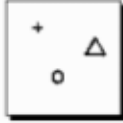
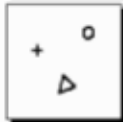
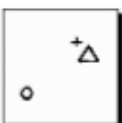
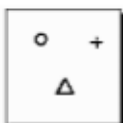
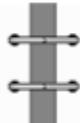
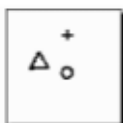


Outlined shapes

Solid shapes







designed by Bongard, the next 56 by Hofstad

The results of the experiment described in §3.2

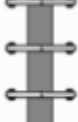
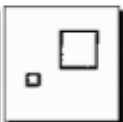
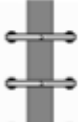
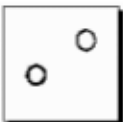
BP. The number of correct answers, average

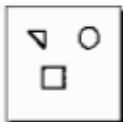
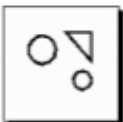
shown. All times are in seconds. Also show

answers, their average time, the number of wro

the total number of subjects (sample size)

corresponding performance values are shown, f

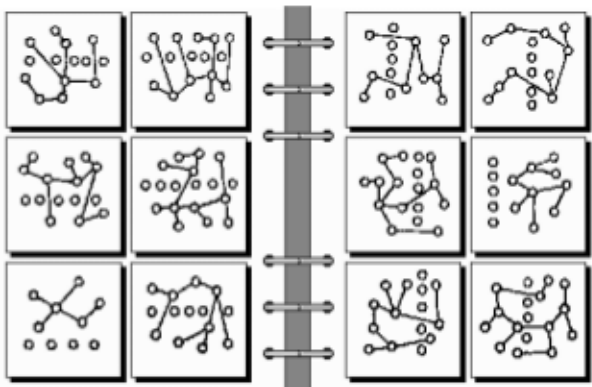


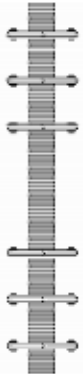




Objects shaded on the

Objects shaded on the





Detention of trunk

Detention of branch

2

U

?

5

3

4

5

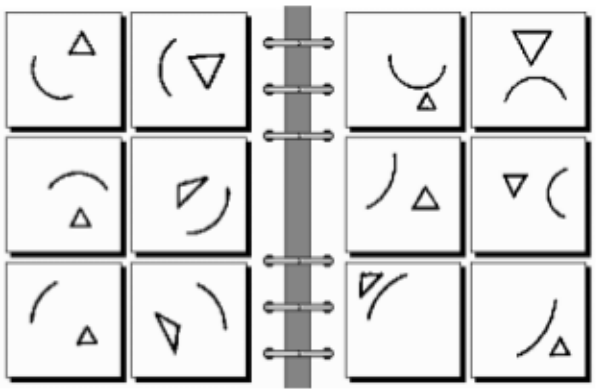
5

0

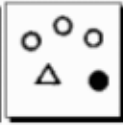
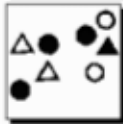
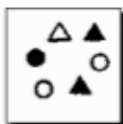
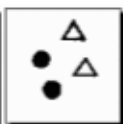
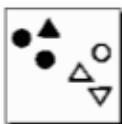
0

0

0







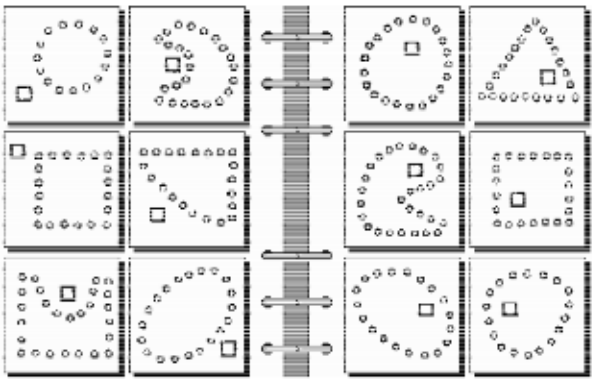
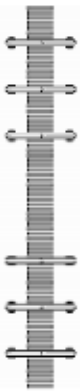
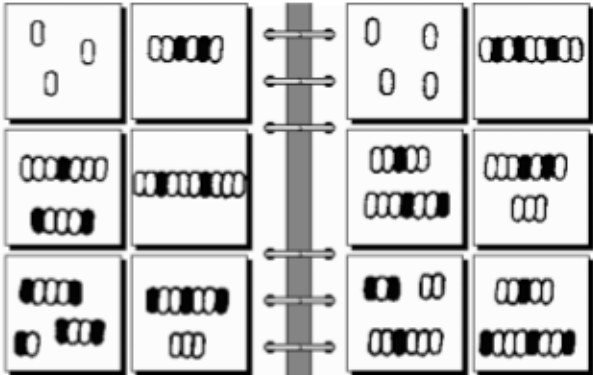


Figure 1. A 3x4 grid of panels showing various arrangements of circles and squares.

Figure 2. A 3x4 grid of panels showing various arrangements of circles and squares.

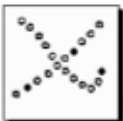
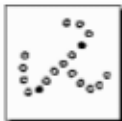


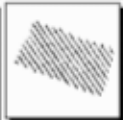


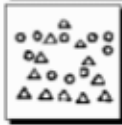
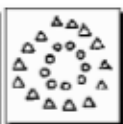


Three groups of outlined

Four groups of outlined

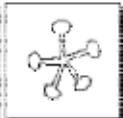




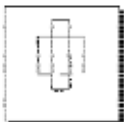


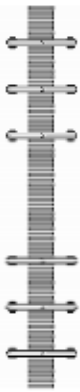




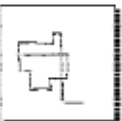
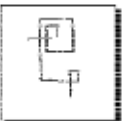


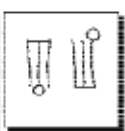


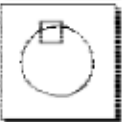






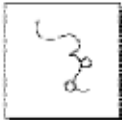




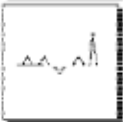
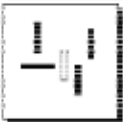








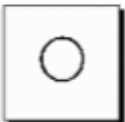
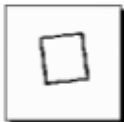


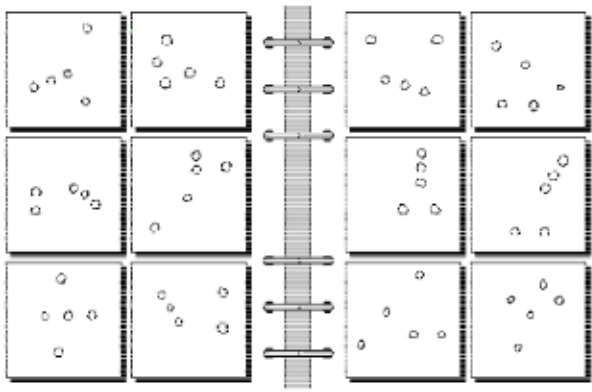


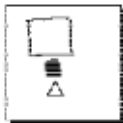


Handwritten cursive text, possibly reading "Mama" or "Papa".









ff

M

2

A

3

9

N

7

Z

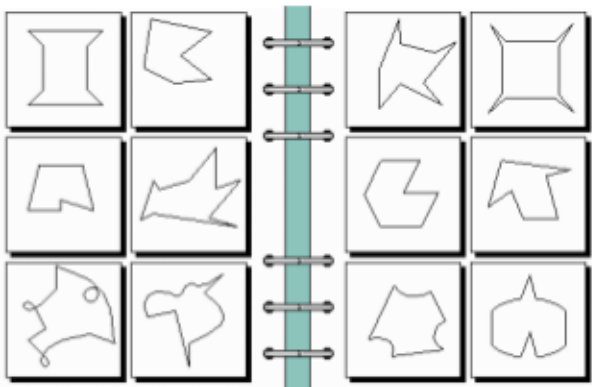
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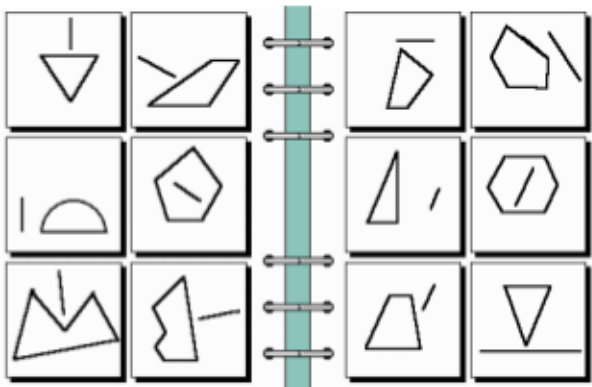
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7



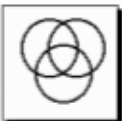


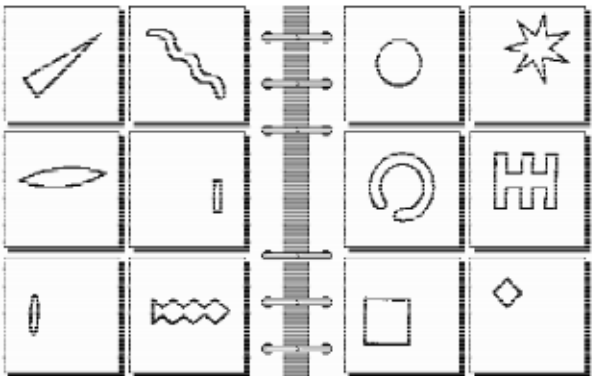






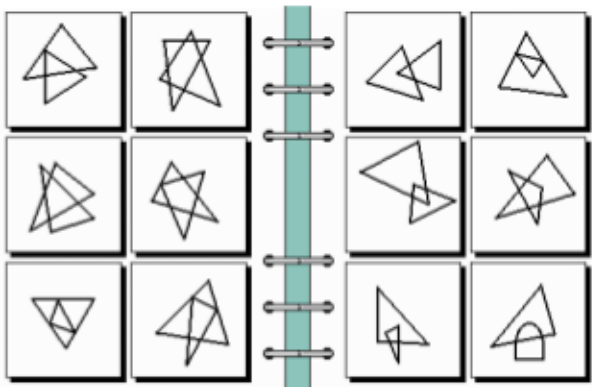






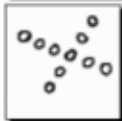
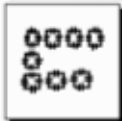
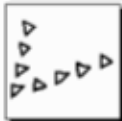
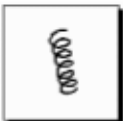
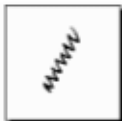
Elevated shapes

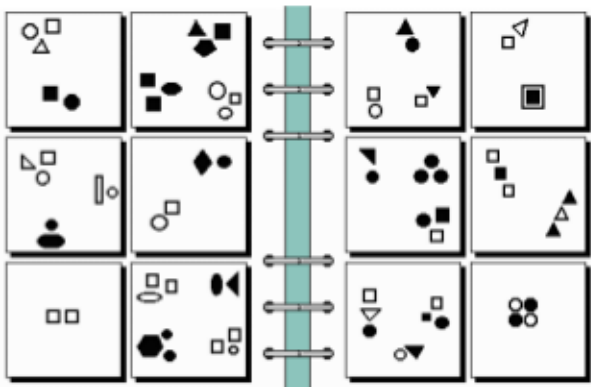
Not elevated shapes



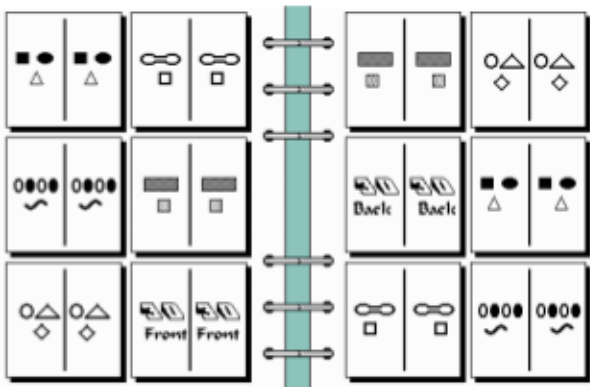








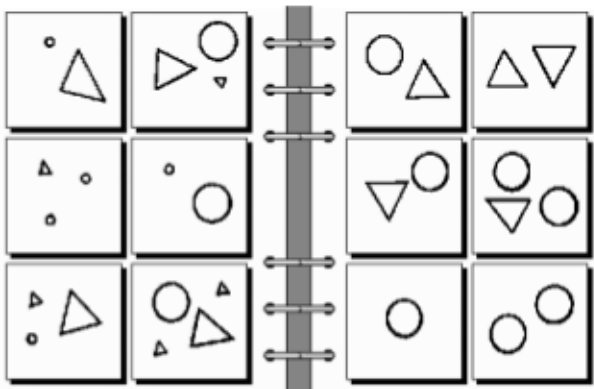


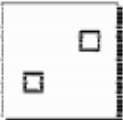
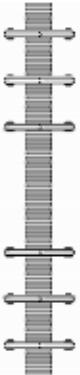
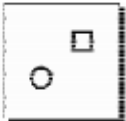












Circle present

No circle