

**TRANSFORMATIONS
ON
DOT PAPER**

Transformations

Objective: Locate images under various transformations

Students: Whole class activity

Materials: Overhead projector
Transparencies of the activities cut apart
A set of numbers #1 - #20
Colored pens for writing on the overhead

Procedure: Divide the class into four teams (Team A, Team B, Team C, and Team D). All members of the team should participate in the activity.

The teams take turns sending a different member to the overhead. This team member draws a number from the set of numbers. This determines the transparency he/she will use.

The teacher places the transparency corresponding to the number drawn on the overhead projector under the roll of clear plastic. A sheet of clear plastic can be used if there is no roll. The teacher then reads the problem for that transparency from the Problem Sheet.

The team member uses the colored pen to draw the image designated for the problem. If his/her answer is correct, the team scores three points. If the answer is not correct, a member from another team may attempt the problem. If that member is correct his/her team scores two points. If the second attempt is incorrect, the teacher gives the correct solution.

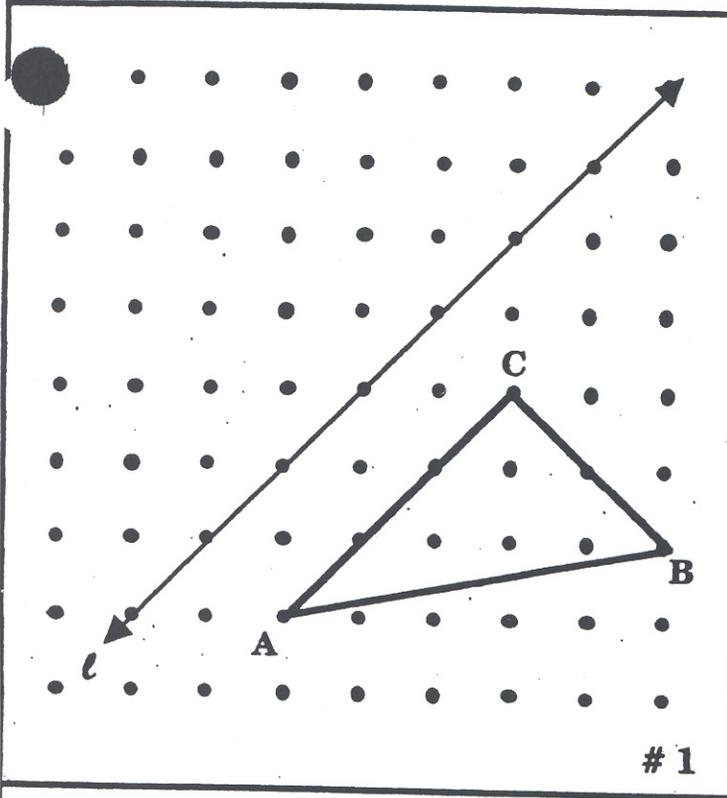
Play continues until all 20 transparencies have been attempted. The team with the highest score wins. Note: This game could take more than one class period.

Variations: A time limit could be placed on the game, but care must be taken to see that each team has an equal number of chances.

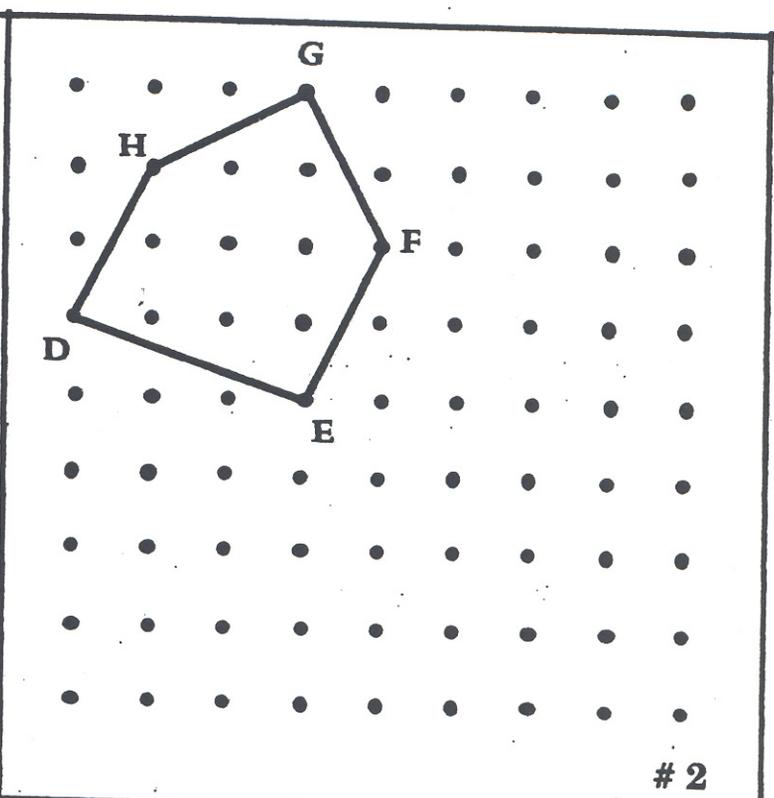
A predetermined number of turns (two or three) for each team could be scheduled and the game ends when this has been accomplished.

Problems

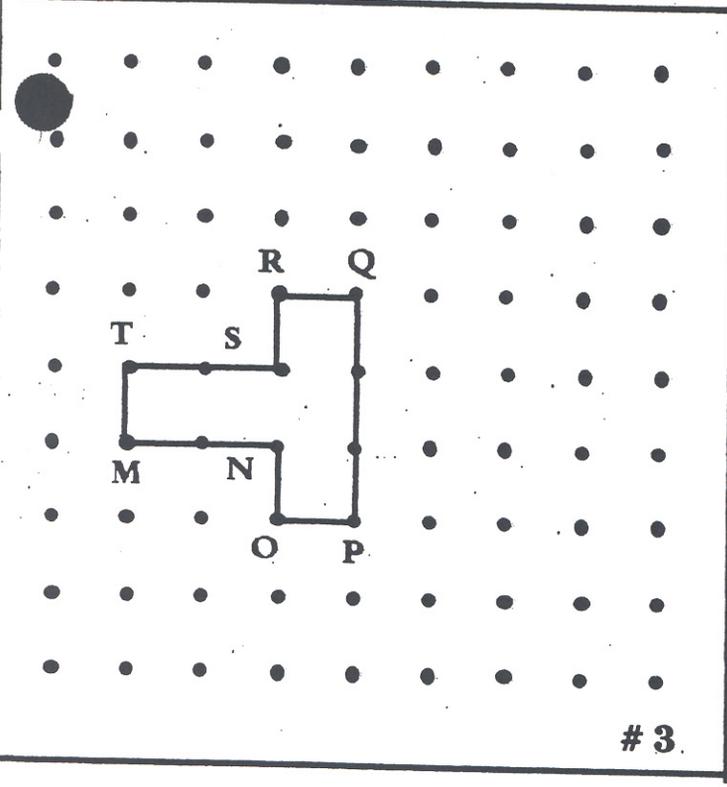
- #1 Find the image of $\triangle ABC$ when it is reflected over line ℓ .
- #2 Find the image of DEFGH under the translation $(3, -4)$.
- #3 Find the image of MNOPQRST when it is rotated 90° about point P.
- #4 Find the image of WXYZ under a dilation with center at Q and a scale factor of 2.
- #5 Find the image of DEFGHK under a dilation with center at E and a scale factor of 2.
- #6 Find the image of ABCDEFGH when it is rotated 180° about point B.
- #7 Find the image of MNOPQRSTUV under the translation $(3, 4)$.
- #8 Find the image of WXYZ when it is reflected over line m .
- #9 Find the image of ABCDEF when it is rotated 90° about point A.
- #10 Find the image of $\triangle RST$ when it is reflected over line n .
- #11 Find the image of WXYZ under a dilation with center at A and a scale factor of $1/3$.
- #12 Find the image of $\triangle JKL$ under the translation $(0, 2)$.
- #13 Find the image of KLMN when it is rotated 90° about point M.
- #14 Find the image of $\triangle WXY$ under a dilation with center at A and a scale factor of $1/4$.
- #15 Find the image of ABCD when it is reflected over line ℓ .
- #16 Find the image of $\triangle JKL$ under the translation $(2, 2)$.
- #17 Find the image of ABCD when it is rotated 90° about point P.
- #18 Find the image of circle C when it is reflected over line ℓ .
- #19 Find the image of RSTUV under the translation $(3, -1)$.
- #20 Find the image of MNOPQR under the translation $(-1, -2)$.



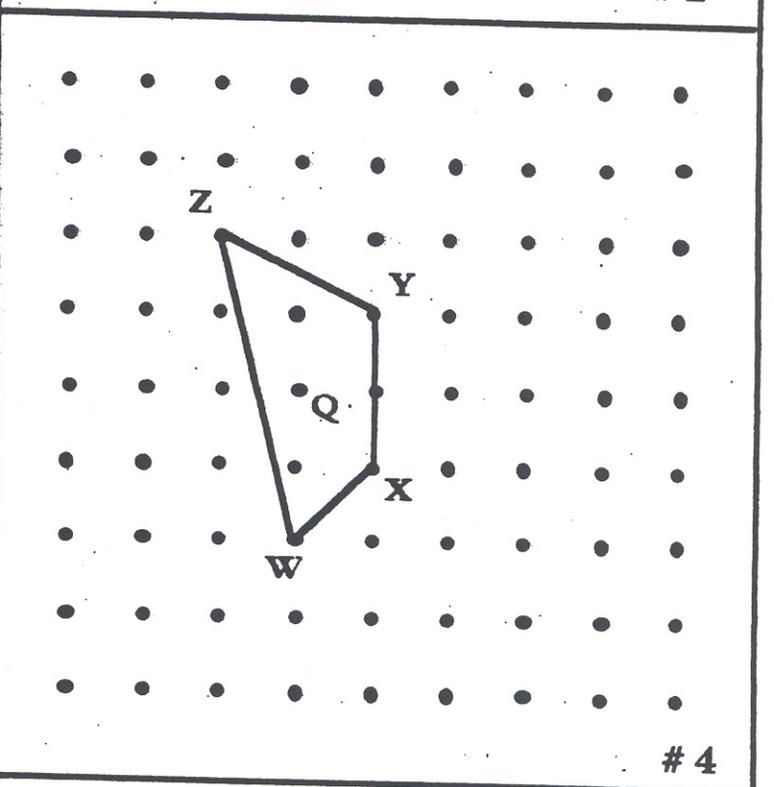
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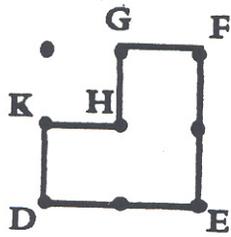
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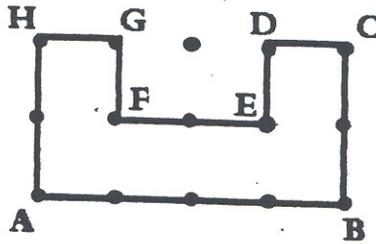
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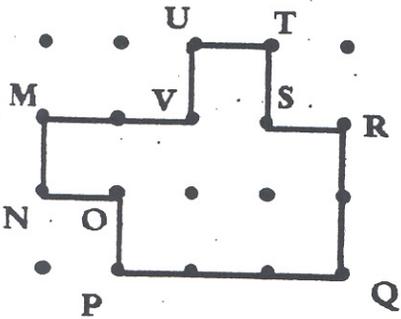
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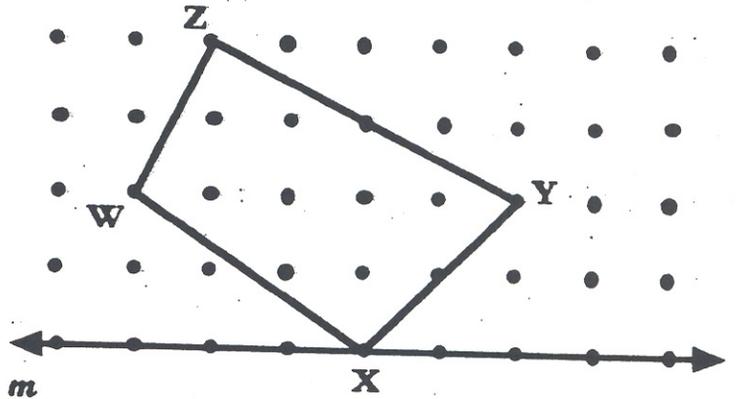
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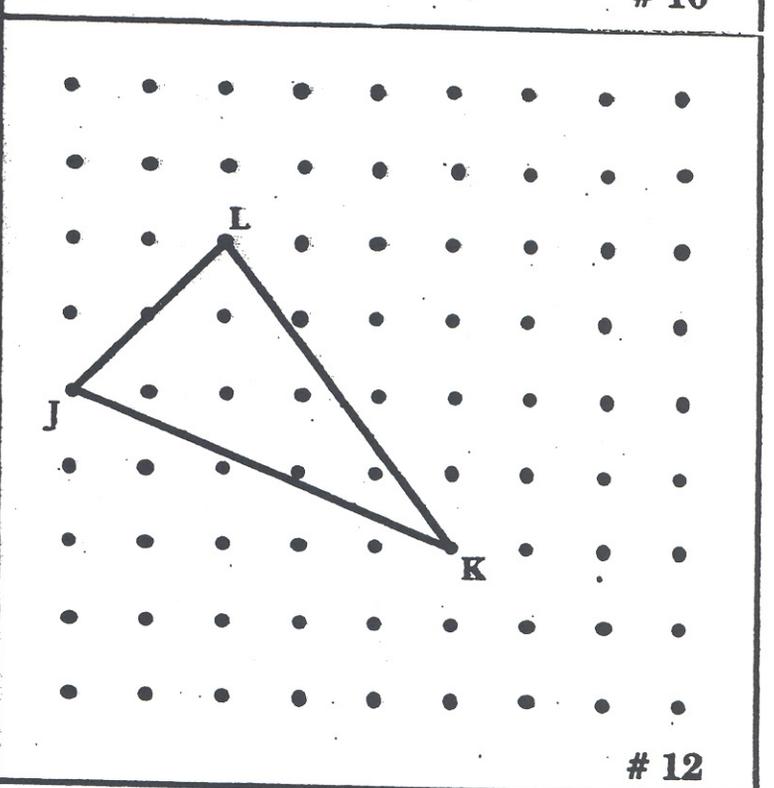
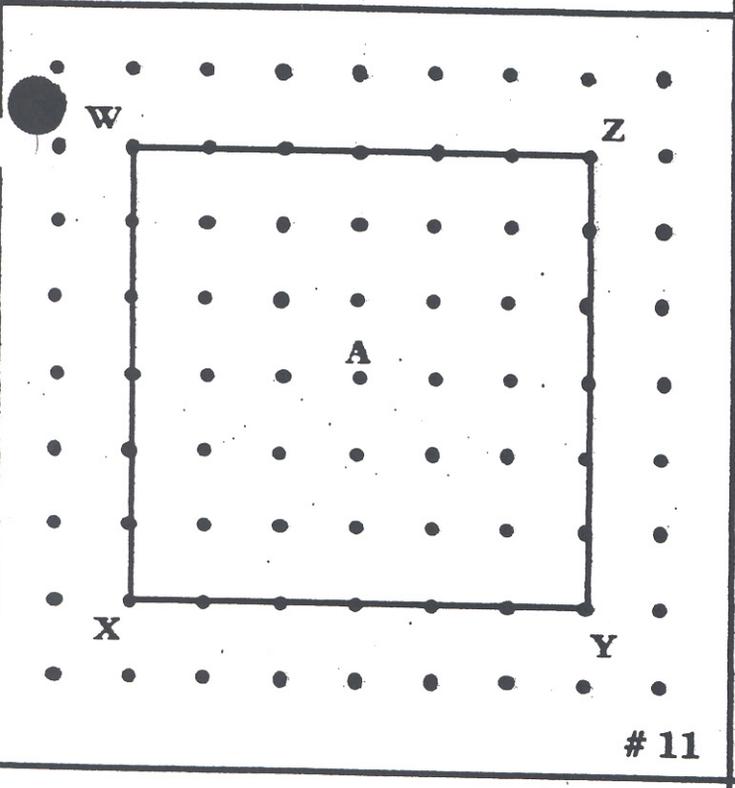
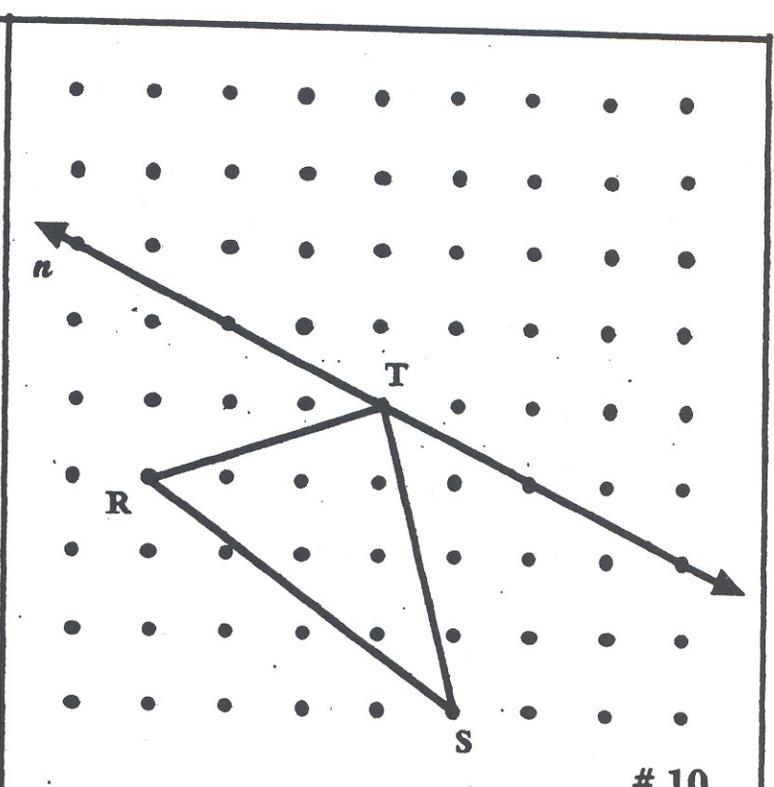
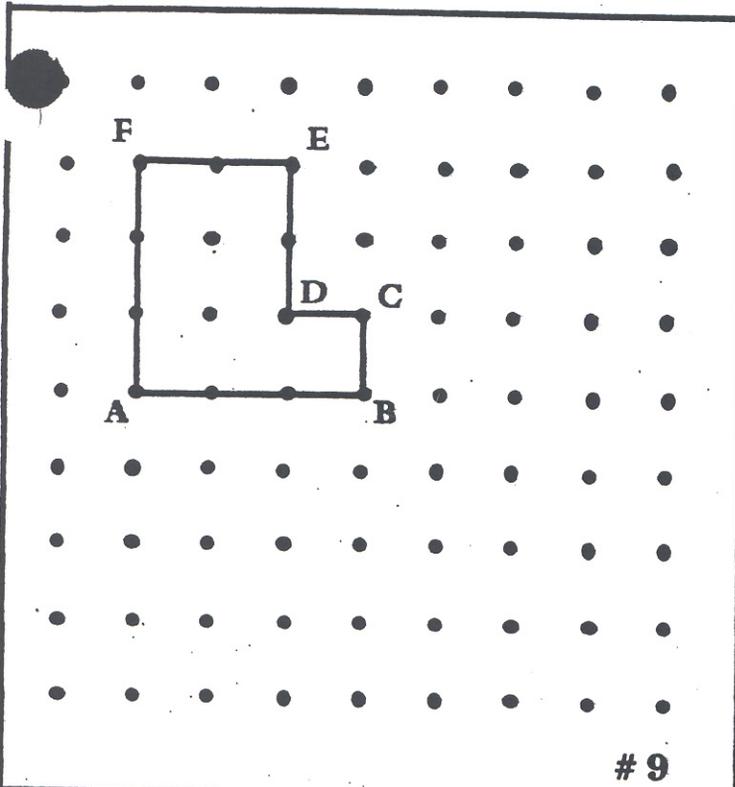
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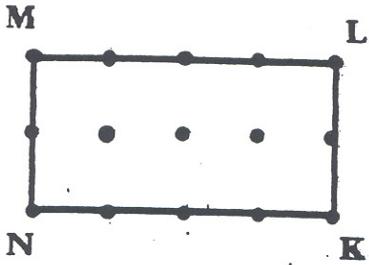


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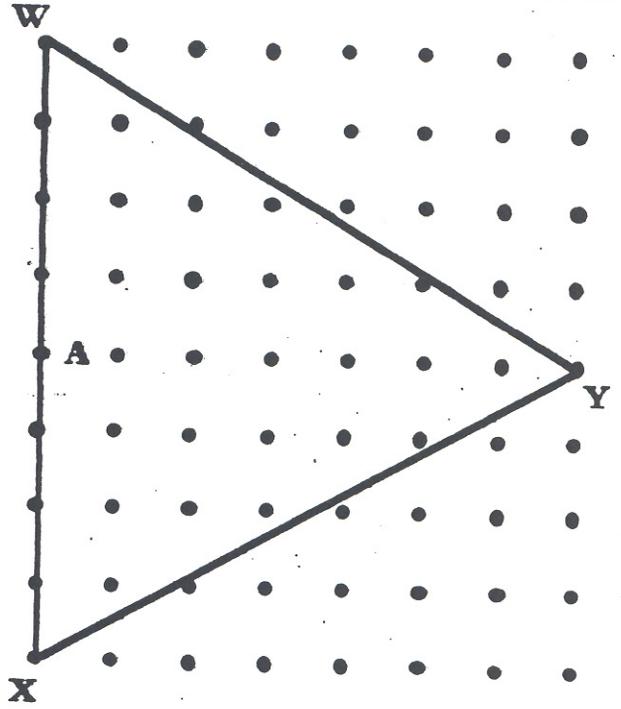


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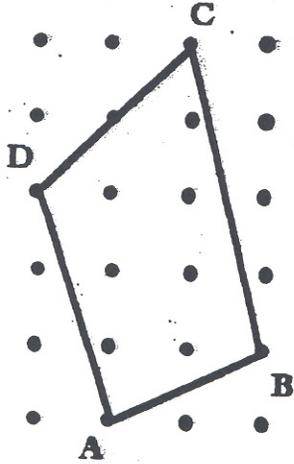




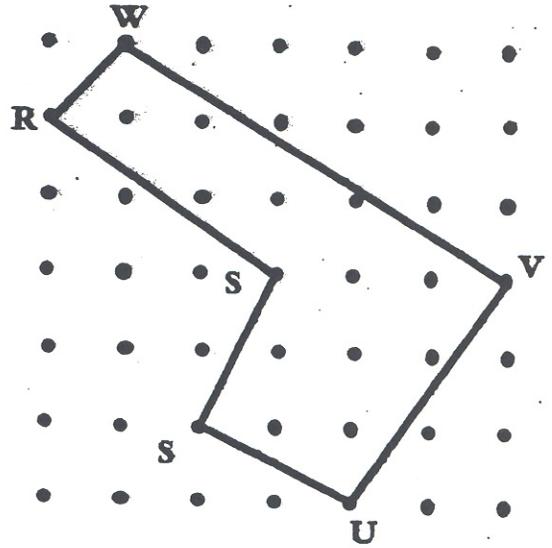
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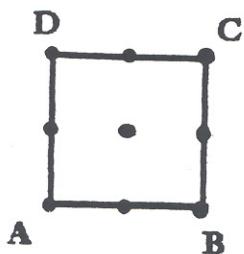
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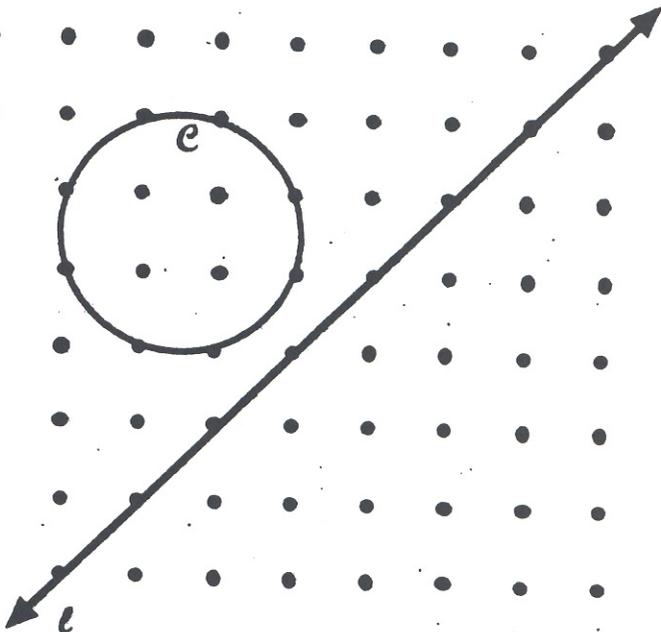
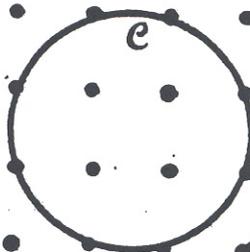


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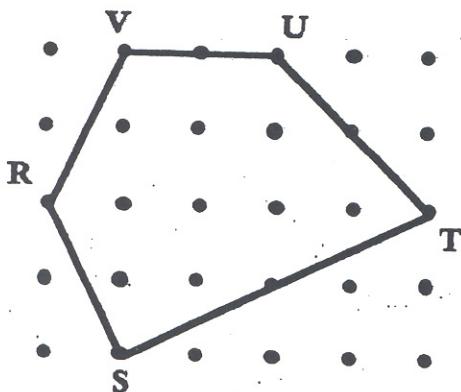


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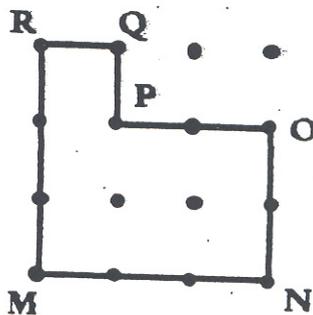
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#19



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NAME _____

Isometric Dot Paper