

Name _____

4-7A Lesson Master

Questions on SPUR Objectives

See Student Edition pages 293–297 for objectives.

PROPERTIES Objective E

In 1–4, suppose A , B , and C are all 2×2 matrices. Write a statement using these matrices that demonstrates the given property.

1. The set of 2×2 matrices is closed under multiplication:
 AC has dimensions _____
2. Matrix multiplication is associative: _____
3. Matrix multiplication is not commutative: _____
4. $\begin{bmatrix} 1 & 0 \\ 0 & 1 \end{bmatrix}$ is the 2×2 identity matrix: _____
5. In the composite $r_y = -x \circ r_y$, which reflection is performed first? _____
6. Write a composition that shows a reflection over the x -axis followed by a rotation of 90° around the origin. _____

PROPERTIES Objective G

7. Find a matrix for $r_y = x \circ r_x$. _____
8. Find a matrix for $r_x \circ r_y = x$. _____
9. Which answer from question 7 or 8 is the matrix for R_{90} ? _____

REPRESENTATIONS Objective K

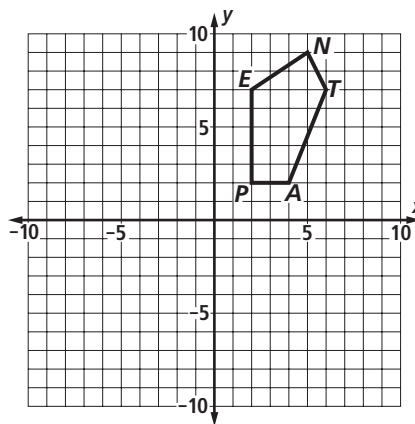
In 10–13, use $PENTA$, graphed at the right.

10. Give a matrix for $PENTA$.

11. Give a matrix for $P'E'N'T'A' = r_y(PENTA)$.
 Graph this image at the right.

12. Give a matrix for $P''E''N''T''A'' = R_{90} \circ r_y(PENTA)$.
 Graph this image at the right.

13. What single transformation equals $R_{90} \circ r_y$? _____



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