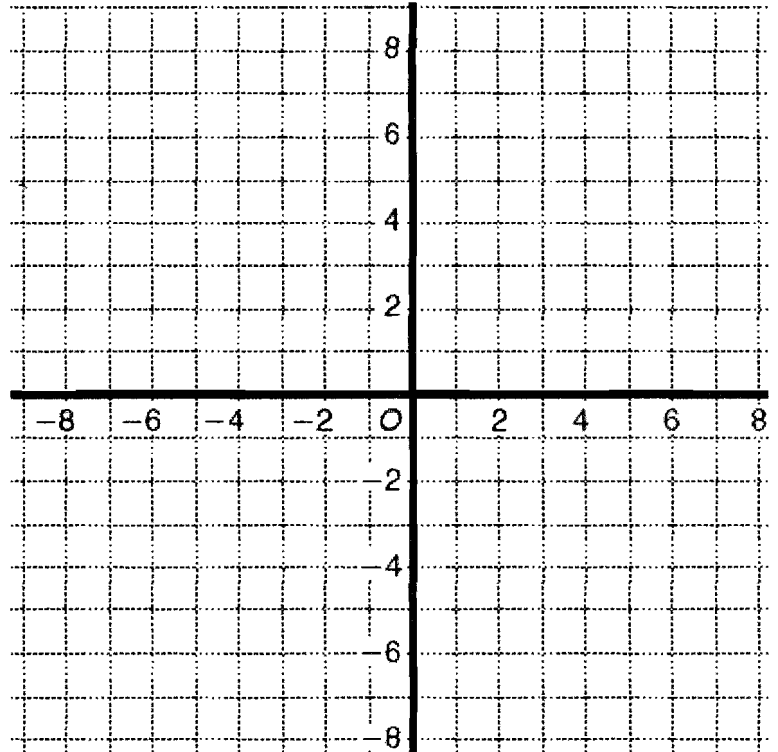


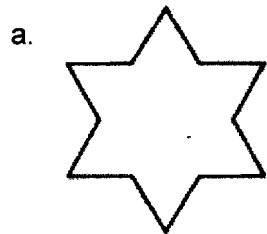
#1-8: Use graph grid as needed. Given: point $P(-2, -4)$. Find the coordinates of P' after each transformation or composition of transformations.

1. a reflection across the line $y = x$ _____
2. a translation along the vector $\langle -3, 6 \rangle$ _____
3. a 90° rotation about the origin _____
4. a 180° rotation about the origin _____
5. a dilation centered at the origin with scale factor $\frac{1}{2}$ _____
7. a reflection across the line $y = 1$ followed by a translation along the vector $\langle 4, -5 \rangle$ _____
8. a dilation centered at the origin with scale factor -2 followed by a rotation of 90° about the origin _____

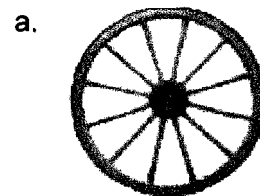


9. What vector maps the point $(6, -17)$ onto the point $(2, 14)$? _____
10. The point $(9, 27)$ maps onto the point $(-3, -9)$ using the dilation rule $(x, y) \rightarrow (\quad , \quad)$.

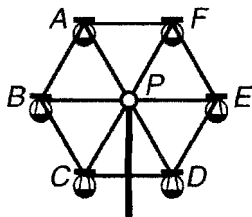
11. How many lines of symmetry? Draw them.



12. What is the angle of rotational symmetry for each figure?

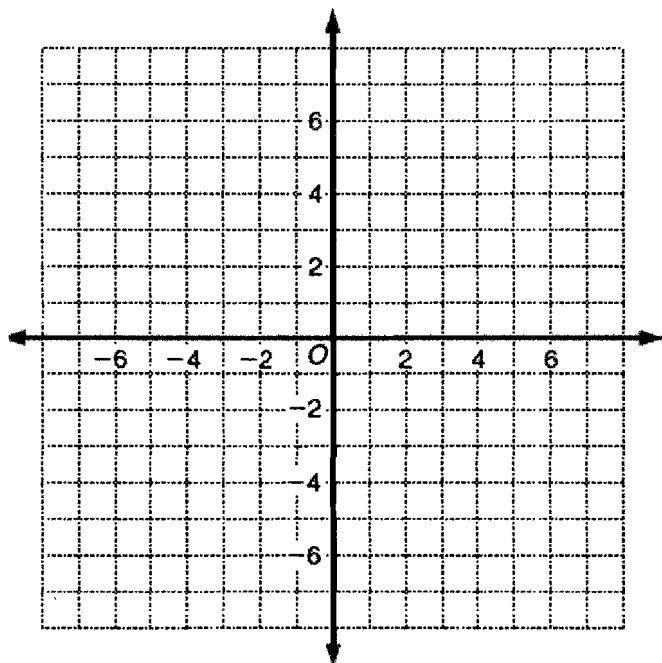


13. Use the ferris wheel shown. Use point P as the center of rotation



- a. An angle of rotation of 240° moves seat B to location _____.
- b. What angle of rotation takes a rider from location D to location F ? _____

Graph the line $8x + 4y = 24$. Perform each transformation and give the equations of transformed lines in slope-intercept form.



14. Reflect line k across the y -axis and label it m .

Equation of line m : _____

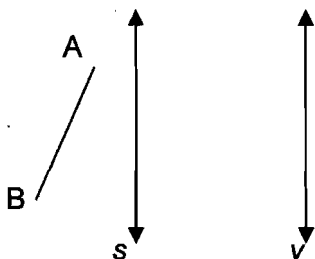
15. Reflect line k across the x -axis and label it p .

Equation of line p : _____

16. Translate line k along the vector $\langle -4, -5 \rangle$ and label it line r .

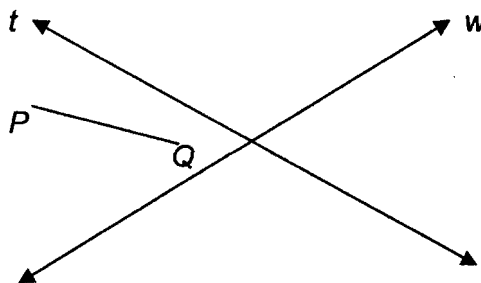
Equation of line r : _____

17. Reflect \overline{AB} across parallel lines s and v . Label the final image $\overline{A'B'}$.



What single transformation maps \overline{AB} onto $\overline{A'B'}$?

18. Reflect \overline{PQ} across intersecting lines t and w . Label the final image $\overline{P'Q'}$.



What single transformation maps \overline{PQ} onto $\overline{P'Q'}$?