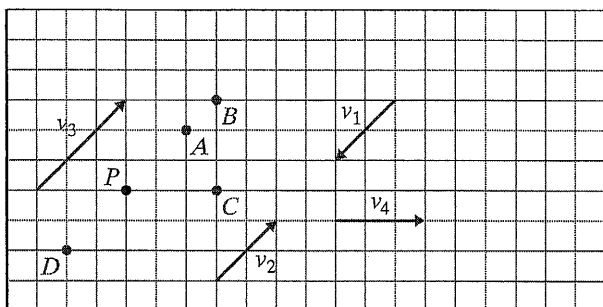


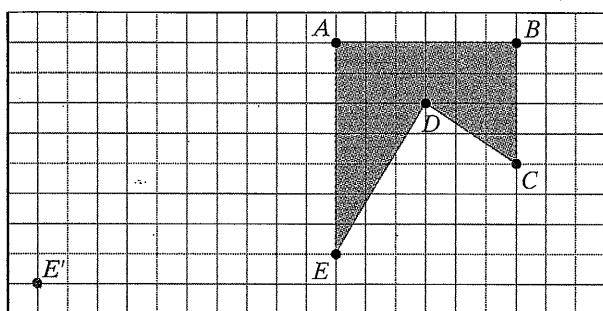
22. Which point in the following figure is the image of P under

- (a) the translation with vector v_1 ?
- (b) the translation with vector v_2 ?
- (c) the translation with vector v_3 ?
- (d) the translation with vector v_4 ?



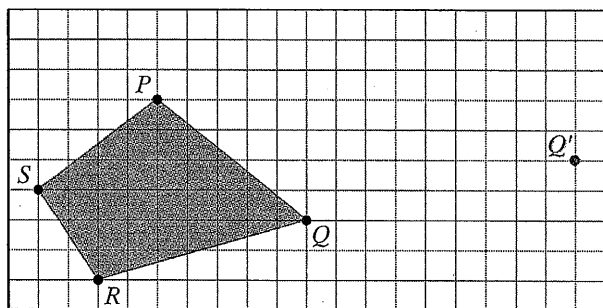
23. Given a translation that sends the point E to the point E' as shown in the following figure, find

- (a) the image of A under the translation.
- (b) the image of figure $ABCDE$ under the translation.

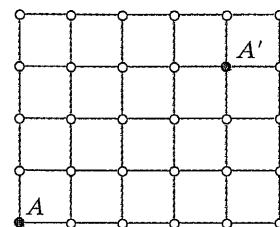


24. Given a translation that sends the point Q to the point Q' as shown in the following figure, find

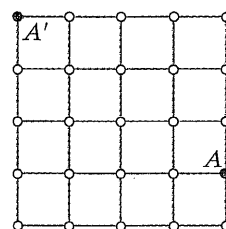
- (a) the image of P under the translation.
- (b) the image of figure $PQRS$ under the translation.



25. The grid graph shown in the following figure represents a street grid where each block of the grid is exactly 1 mile long. A taxi needs to go from point A to point A' . Describe the taxi's trip in terms of one or more translations. For each translation describe the length and direction of the vector of translation.

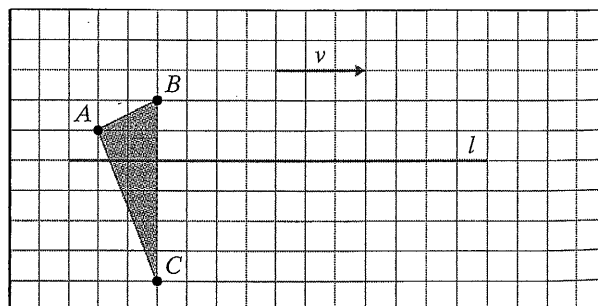


26. The grid graph shown in the following figure represents a street grid where each block of the grid is exactly 1 mile long. A taxi needs to go from point A to point A' . Describe the taxi's trip in terms of one or more translations. For each translation describe the length and direction of the vector of translation.

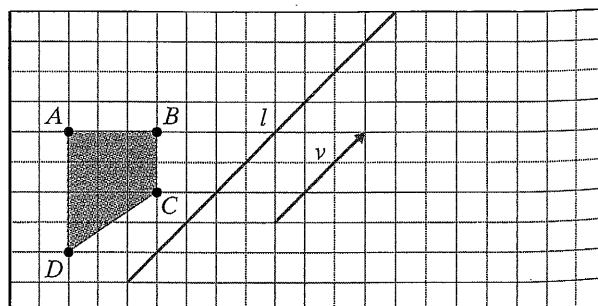


D. Glide Reflections

27. Given a glide reflection with vector v and axis l as shown in the following figure, find the image of the triangle ABC under the glide reflection.



28. Given a glide reflection with vector v and axis l as shown in the following figure, find the image of the quadrilateral $ABCD$ under the glide reflection.



29. Given a glide reflection that sends the point B to the point B' and the point D to the point D' as shown in the following figure, find

- (a) the axis of the glide reflection.
- (b) the image of A under the glide reflection.