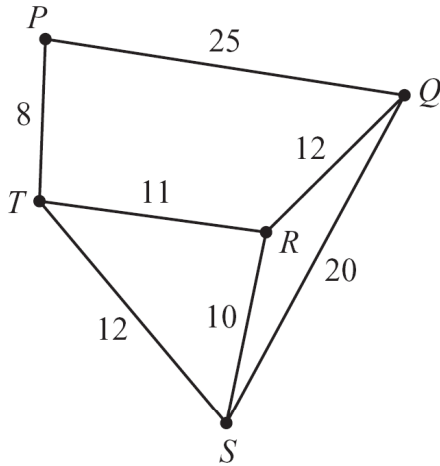


- 1** The diagram below represents five of Gina’s classrooms and the paths between them. The classrooms are labeled P , Q , R , S , and T . The length, in yards, of each path is shown.

Mark your answer here: 1. (A)(B)(C)(D)



Gina needs to pick up homework assignments from each of the five classrooms. She begins at classroom P .

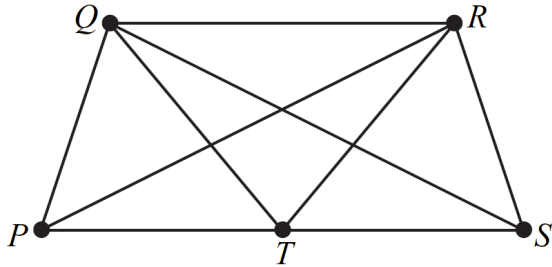
What is the minimum distance she can walk along the paths so that she stops once at each of the remaining four classrooms without taking any path more than once?

- A. 31 yards
- B. 42 yards
- C. 49 yards
- D. 59 yards



- 2** The line segments in the diagram below represent the paths through a rose garden.

Mark your answer here: 2. (A)(B)(C)(D)



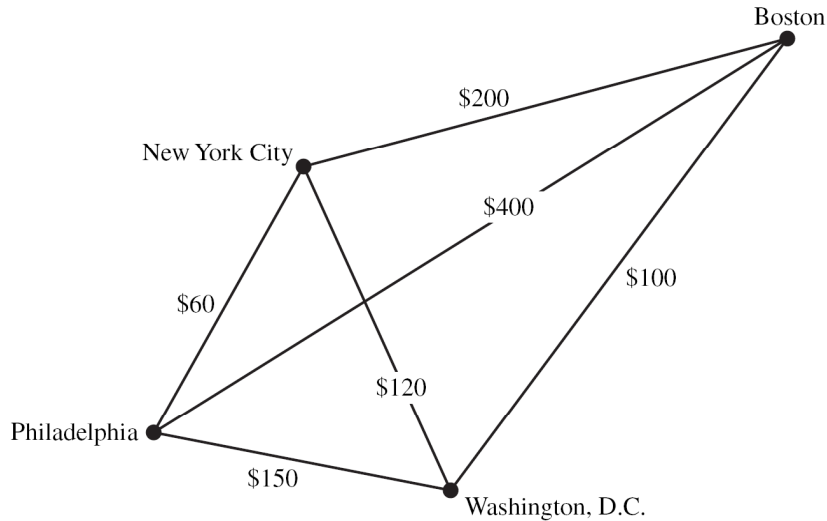
If Roberta starts at point *P* and walks on each path exactly once, at what point will she finish?

- A. *Q*
- B. *R*
- C. *S*
- D. *T*



Directions: For the problem below, use a separate piece of paper to write your answers. Your teacher will not count anything you write on this page.

- 3** The vertex edge graph below shows airline flight routes and airline fares for travel between pairs of cities.



- Benni is planning to fly from Boston to Philadelphia. Based on the vertex edge graph, list all the possible routes she could take. (Assume that no route would include passing through a city more than once.)
- Which of the possible routes you listed should Benni take if she wants the cost of her trip to be as low as possible? Show or explain how you obtained your answer.
- Suppose that scheduling required Benni to select the most expensive route. Which of the routes you listed would be most expensive? Show or explain how you obtained your answer.

