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Lecture
Lecture questions due Oct 18, 2016 at 19:30 IST

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Problem Set 6
Homework 6 due Oct 18, 2016 at 19:30 IST

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Two Applications Exercise

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PART A

1/1 point (graded)

What is the Euclidean distance from the point (8, 2) to the point (5, 6)?

5 ✔ **Answer:** 5

5

The distance is 5.

The Euclidean distance is $[(8-5)^2+(2-6)^2]^{.5}=[9+16]^{.5}=5.$

Submit You have used 1 of 3 attempts

✔ Correct (1/1 point)

PART B

1/1 point (graded)

- Exit Survey

Suppose that the travel cost per mile increased from $1 to $3 and the number of daily truck deliveries doubled for each sales center, and no other data changed.

- The optimum solution may change.
- The optimum solution would stay the same, and the optimum solution value would be multiplied by 5.
- The optimum solution would stay the same, and the optimum solution value would be multiplied by $\frac{3}{2}$
- The optimum solution would stay the same, and the optimum solution value would be multiplied by 6. ✔

Solution

The optimum solution would not change, and the optimum cost would be multiplied by 6.
The only costs in the problem are transportation costs. If we increased the cost per mile from $1 to $3, the optimum costs would triple, but the optimum solution would not change. If we then doubled the number of trucks for each site, the costs would double and the solution would not change. With the two changes, the optimum cost would be multiplied by 6.

Submit You have used 1 of 2 attempts

✔ Correct (1/1 point)