

Performance Assessment Task

Good Fences Make Good Neighbours

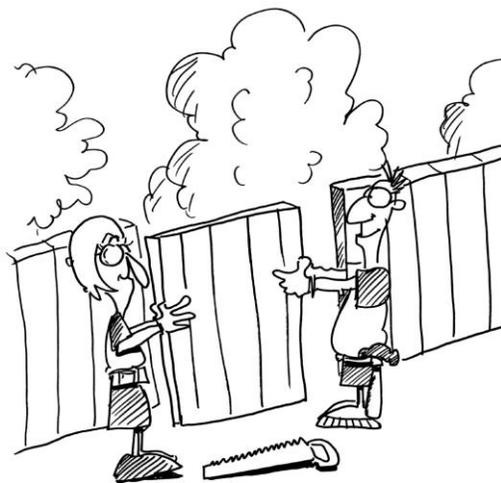
Mr. Akers has just moved to Canada from the USA and has settled in beside his British neighbour, Ms. Burkin. Mr. Akers needs to build a fence between their two yards to keep his dog out of his neighbour's yard. Being on tight budgets, both of them want the job done well but neither wants to pay for any extra costs. Both would like to have the job done quickly so they decided to choose pre-manufactured panels (available at select hardware stores).

As their friendly Canadian neighbour, you offer to help them calculate the length and cost of this fence and determine how much each of them should pay. Each neighbour has emailed you their property line measurements (see map attached), but they each gave you different measurements for the fence line!

Your Task

Your role is to research the cost of building the fence and make a recommendation for sharing the expense to Mr. Akers and Ms. Burkin. Explain your calculations, choices and rationale. To calculate the cost of the fence per neighbour, consider:

- ❑ Mr. Akers got a measurement of 110.21 feet for the length of the fence to be constructed. Ms. Burkin believes the fence should be 32.5 metres long. These measurements are not equivalent. Fortunately, the surveyed property measurements will allow you to simply calculate the accurate fence line and save you a trip to measure it! **Apply the Pythagorean Theorem** to calculate the length of fence required to separate the two yards.
- ❑ **Convert between the SI units and Imperial units** so that you can provide the measurements and costs in the Imperial system (for Mr. Akers) and the Metric system (for Ms. Burkin).
- ❑ **Calculate the total cost of the materials for the fence;** The original fence had been removed years ago, but the footings are still in place on the property line (4' gaps between each footing). Research the type of pre-manufactured fence panel you would recommend and the cost of the materials needed. The only materials to be purchased are:
 - Fence panels (4 ft / panel; assume each kit includes hangers),
 - Posts, and screws (or nails).

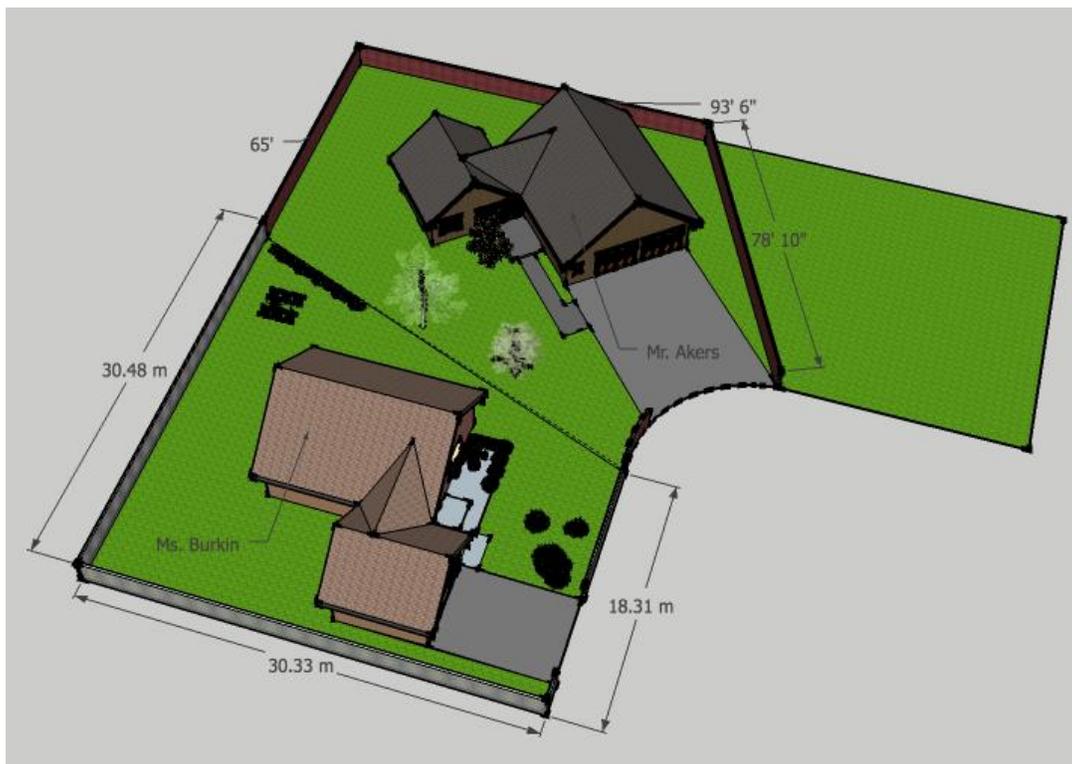


Good Fences Make Good Neighbours (Continued)

- Justify a reasonable cost for the labour** of building the fence. Ms. Burkin is elderly and is unable to help build the fence. She does, however, have 3 extra fence posts (10.16 cm square) she salvaged from the last fence and is happy to contribute them to the project. Mr. Akers is willing to build the fence using his tools. Determine a reasonable amount for the value of his labour.
- Determine** a fair way to share **the total cost of the fence**, considering the need, value of the posts and the labour. What proportion should each neighbour pay?

Property Map

Here is the map of the properties:



Checklist and Rubric: Good Fences Make Good Neighbours

Student _____ Date _____

Criteria	Description of Criteria	Yes	Not Yet	Teacher Comment
Apply Pythagorean theorem (Geometry 2) [C, CN, PS, V]	The student has proficiently applied the theorem to solve the problem.			
Convert between SI units and imperial units (Measurement 1, 2, 3) [C, CN, ME, PS, V]	The student has accurately applied conversion factors to solve the problem and present the solution.			

Level \ Criteria	Excellent	Proficient	Adequate	Limited *	Insufficient/ Blank *
Calculate cost of fence materials (Number 1) [CN, ME, PS, R]	Provides a perceptive examination of pertinent factors in determining the total cost of fence.	Provides an applicable examination of pertinent factors in determining the total cost of fence.	Provides a basic examination of pertinent factors in determining the total cost of fence.	Unable to determine the total cost of fence.	No score is awarded because there is insufficient evidence of student performance based on the requirements of the assessment task.
Justify cost of labour (Number 2) [C, CN, R, T]	Provides a comprehensive justification for the total cost of labour for building the fence.	Provides a substantial justification for the total cost of labour for building the fence.	Provides a simplistic justification for the total cost of labour for building the fence.	Provides a weak justification for the total cost of labour for building the fence.	
Calculate cost of fence per neighbour (Number 1) [CN, ME, PS, R]	Proposes an insightful proposal for each neighbour's proportionate cost to build the fence.	Proposes a thoughtful proposal for each neighbour's proportionate cost to build the fence.	Proposes a reasonable proposal for each neighbour's proportionate cost to build the fence.	Proposes a questionable proposal for each neighbour's proportionate cost to build the fence.	

* When work is judged to be limited or insufficient, the teacher makes decisions about appropriate intervention to help the student improve.