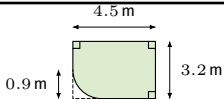


A Rounded-Corner Deck: Two Quotes



Compare the two suppliers by total cost, checking any delivery condition.



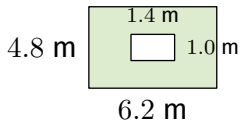
Question 1. A rectangular deck measures 4.5 m by 3.2 m, with one corner rounded off with a 0.9 m radius. **Supplier A:** \$88/m², free delivery over \$1200 (else \$80 delivery). **Supplier B:** \$95/m² less a 10% discount, delivery always free. Budget \$1300.

- (a) Calculate the area of the deck.
- (b) Calculate the total cost from each supplier.
- (c) Which supplier should be used, within budget? Justify your decision.

Carpeting a Room: Two Quotes



Compare the two quotes by total cost, checking any delivery condition.



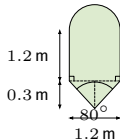
Question 2. A room measures 6.2 m by 4.8 m. A fireplace hearth measuring 1.4 m by 1.0 m sits inside and is not carpeted. **Quote A:** \$32 per m^2 , free delivery on orders of \$900 or more (otherwise a \$60 delivery fee). **Quote B:** \$29 per m^2 , plus a flat \$150 installation fee.

- (a) Calculate the area of carpet needed.
- (b) Calculate the total cost of Quote A (checking whether delivery is free) and of Quote B.
- (c) Which quote should be accepted? Justify your decision.

A School Sign: Two Suppliers



Compare the two suppliers by total cost.



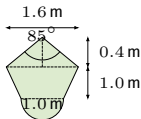
Question 3. A school sign is a 1.2 m square with a semicircular dome on top and a triangular point (0.3 m deep) at the bottom. **Supplier X:** \$150 per m^2 , plus a \$40 cutting fee. **Supplier Y:** \$175 per m^2 , with a 15% loyalty discount for schools, no fee.

- (a) Calculate the total area of the sign.
- (b) Calculate the total cost from Supplier X and from Supplier Y.
- (c) Which supplier should the school use? Justify your decision.

A Garden Gate Topper: Two Materials



Compare the two material options within the given budget.



Question 4. A decorative gate topper combines a trapezium body (bottom 1.6 m, top 1.0 m, height 1.0 m), a semicircular dome, and a triangular point (0.4 m deep). **Aluminium:** \$210 per m^2 , no fee.

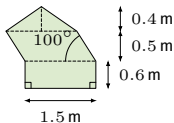
Timber: \$165 per m^2 , plus a \$55 sealant-treatment fee. Budget: \$450.

- (a) Calculate the total area of the topper.
- (b) Calculate the total cost of the aluminium option and the timber option.
- (c) Both options fit the budget. Which should be chosen? Justify your decision, including a non-cost factor.

A Garden Feature: Two Paint Options



Compare the two paint options by total cost.



Question 5. A garden feature combines a rectangle ($1.5 \text{ m} \times 0.6 \text{ m}$), a parallelogram section (0.5 m tall), and a triangular top (0.4 m tall).

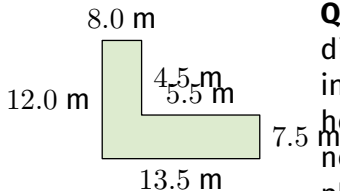
Option 1: tins at \$39, covering 2 m^2 per coat, needs 2 coats. **Option 2:** tins at \$52, covering 3 m^2 per coat, needs only 1 coat.

- (a) Calculate the total area of the feature.
- (b) For each option, calculate the total tins required and the total cost.
- (c) Which option should be chosen? Justify your decision.

Fencing an L-Shaped Yard



Compare the two fencing options within the given budget.



Question 6. An L-shaped yard has these dimensions: left height 12.0 m, top width 8.0 m, inner drop 4.5 m, inner horizontal 5.5 m, right height 7.5 m, bottom width 13.5 m. A 3.0 m gate needs no fencing. **Option A:** 10 m rolls, \$215 each, plus \$180 gate. **Option B:** \$26/m continuous, plus \$150 gate. Budget \$1400.

- (a) Calculate the perimeter, then the fencing needed once the gate gap is removed.
- (b) Calculate the total cost of Option A and of Option B.
- (c) Both options fit budget. Which should be chosen? Justify your decision.