Measurement applications: compound shapes

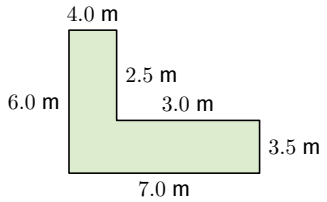
Mana Maths

Splitting Compound Shapes

Key idea

A compound shape is built from simpler shapes glued together. Split it along the dashed line into shapes you already know, find each area, then **add** them.

An L-shaped deck



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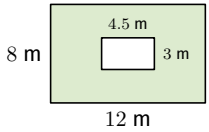
Adding vs Subtracting

Key idea

Two shapes **glued together** (a deck, a roof, a garden bed) $\rightarrow$ **add** the pieces. An **excluded region** (a hole, a void, a garden bed cut out of a lawn) $\rightarrow$ **subtract** it from the outer shape.

A lawn with an excluded garden bed



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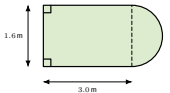
Perimeter of a Compound Shape

Key idea

Only the **true outer boundary** counts. The dashed internal line where two shapes are glued together is never part of the perimeter. A curved edge adds an **arc length**, not a straight measurement.

A running-track garden bed



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Rounding Rules Still Apply

Key idea

Once you have the compound shape's total area, the same LO1 rules apply: round a whole-item purchase UP, and give money to the nearest **cent**.

Common mistake

Forgetting to add the component areas together *before* dividing by the coverage rate – work out the total area first.

Shed wall: square plus gable

Square $2 \times 2 = 4$ m^2. Gable $\frac{1}{2} \times 2 \times 0.6 = 0.6$ m^2. Total $= 4.6$ m^2. Tins (4 m^2/tin): $4.6 \div 4 = 1.15$, round UP $= 2$ tins. Cost $= 2 \times \$32 = \$64.00$.

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Comparing Options and Justifying a Decision

Justifying a choice

Wall area 7.05 m^2. Supplier P: $7.05 \times \$70 = \$493.50$, under \$500 so \$45 delivery applies $= \$538.50$. Supplier Q: $7.05 \times \$75 = \$528.75$, no delivery. **Choose Q**: \$9.75 cheaper, even with a higher rate per m^2.

Common mistake

Picking the option with the lower price per m^2 or per metre without checking fees or a delivery threshold – always compare the **total** cost.

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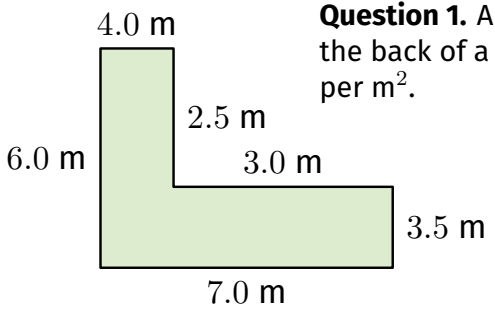
An L-Shaped Deck

Split the deck into the two rectangles shown by the dashed line, then answer parts (a)-(d) in order.



Question 1. A new L-shaped deck is being built at the back of a house. Composite decking costs \$86 per m^2.

(a) Calculate the area of the bottom rectangle (bottom width $\times$ right height).

(b) Calculate the area of the top-left rectangle (top width $\times$ inner drop).

(c) Calculate the total area of the deck.

(d) Calculate the total cost of the decking.

An L-Shaped Deck

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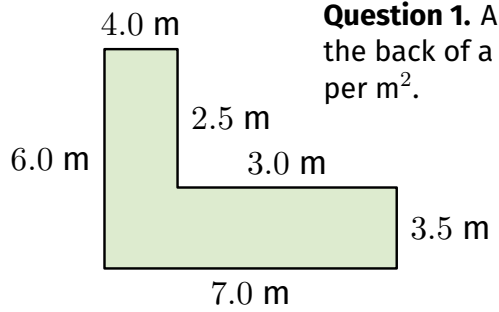


Question 1. A new L-shaped deck is being built at the back of a house. Composite decking costs \$86 per m^2.

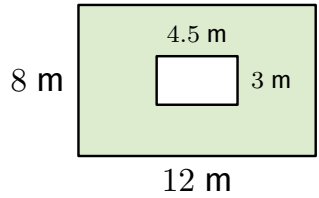
(a) Calculate the area of the bottom rectangle (bottom width $\times$ right height).
Solution $7.0 \times 3.5 = 24.5$ m^2.

(b) Calculate the area of the top-left rectangle (top width $\times$ inner drop).
Solution $4.0 \times 2.5 = 10.0$ m^2.

(c) Calculate the total area of the deck.

Turfing a Lawn

The garden bed is not turfed – its area must be subtracted from the lawn's area.



Question 2. A rectangular lawn measures 12 m by 8 m. A rectangular garden bed measuring 4.5 m by 3 m sits inside the lawn and will not be turfed. New turf costs \$18 per m^2, and can only be bought in whole square metres.

(a) Calculate the area of the whole rectangular lawn.

(b) Calculate the area of the garden bed that will not be turfed.

(c) Calculate the area of lawn that needs new turf.

(d) Turf can only be bought in whole square metres. How many square metres must be bought, and what is the total cost?

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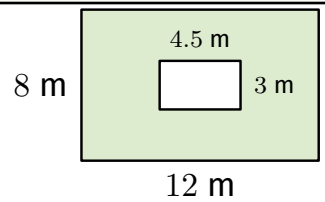


Question 2. A rectangular lawn measures 12 m by 8 m. A rectangular garden bed measuring 4.5 m by 3 m sits inside the lawn and will not be turfed. New turf costs \$18 per m^2, and can only be bought in whole square metres.

(a) Calculate the area of the whole rectangular lawn.
Solution $12 \times 8 = 96$ m^2.

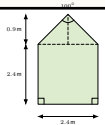
(b) Calculate the area of the garden bed that will not be turfed.
Solution $4.5 \times 3 = 13.5$ m^2.

(c) Calculate the area of lawn that needs new turf.
Solution $96 - 13.5 = 82.5$ m^2.

(d) Turf can only be bought in whole square metres. How many square metres must be bought, and what is the total cost?
Solution 82.5 rounds UP to 83 m^2. Cost $= 83 \times \$18 = \$1494.00$.

Painting a Shed Wall

The wall is a square with a triangular gable above it – find each area, then add them.



Question 3. A garden shed's front wall is a 2.4 m square with a triangular gable roof section 0.9 m tall above it. The wall needs 2 coats of paint, and one tin covers 6 m^2 per coat.

(a) Calculate the area of the square section and the triangular gable section.

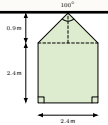
(b) Calculate the total wall area to be painted.

(c) Calculate the total area of paint coverage needed for 2 coats, then find how many tins are needed (only whole tins can be bought).

(d) Each tin costs \$45. Find the total cost of the paint.

Painting a Shed Wall

The wall is a square with a triangular gable above it – find each area, then add them.



Question 3. A garden shed's front wall is a 2.4 m square with a triangular gable roof section 0.9 m tall above it. The wall needs 2 coats of paint, and one tin covers 6 m^2 per coat.

(a) Calculate the area of the square section and the triangular gable section.
Solution Square: $2.4 \times 2.4 = 5.76$ m^2. Gable: $\frac{1}{2} \times 2.4 \times 0.9 = 1.08$ m^2.

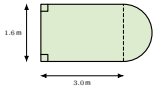
(b) Calculate the total wall area to be painted.
Solution $5.76 + 1.08 = 6.84$ m^2.

(c) Calculate the total area of paint coverage needed for 2 coats, then find how many tins are needed (only whole tins can be bought).
Solution $6.84 \times 2 = 13.68$ m^2 of coverage. $13.68 \div 6 = 2.28$, round UP $= 3$ tins.

(d) Each tin costs \$45. Find the total cost of the paint.
Solution $3 \times \$45 = \$135.00$.

A Running-Track Garden Bed

The garden bed is a rectangle with a semicircular end – add the two areas for the total.



Question 4. A garden bed shaped like a running track (a rectangle with a semicircular end) has a straight section 3.0 m long and 1.6 m wide (the semicircular end has the same 1.6 m diameter). Soil costs \$22 per m^2, and edging strip is sold in 1 m lengths at \$9 each.

(a) Calculate the area of each section, then the total area.

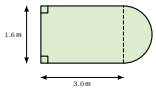
(b) Calculate the cost of the soil.

(c) Calculate the perimeter of the garden bed, correct to 2 decimal places.

(d) How many 1 m lengths of edging are needed, and what is the total cost?

A Running-Track Garden Bed

The garden bed is a rectangle with a semicircular end – add the two areas for the total.



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(a) Calculate the area of each section, then the total area.
Solution Rectangle 4.8 m^2, semicircle ≈ 1.01 m^2. Total ≈ 5.81 m^2.

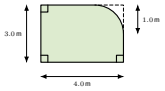
(b) Calculate the cost of the soil.
Solution $5.8053\ldots \times \$22 \approx \$127.72$.

(c) Calculate the perimeter of the garden bed, correct to 2 decimal places.
Solution $P = 2(3.0) + 1.6 + \pi(0.8) \approx 10.11$ m.

(d) How many 1 m lengths of edging are needed, and what is the total cost?
Solution $10.1133\ldots \div 1$, round UP $= 11$ lengths. Cost $= 11 \times \$9 = \$99.00$.

A Rounded-Corner Deck

Read the scenario, then answer parts (a)-(d) in order.



Question 5. A rectangular deck measuring 4.0 m by 3.0 m has one corner rounded off with a radius of 1.0 m for safety. Composite decking costs \$92 per m^2, and edge trim costs \$11 per metre (sold continuously).

(a) Calculate the area of the decking needed (the rectangle's area, minus the missing corner square, plus the quarter-circle that replaces it).

(b) Calculate the total cost of the decking.

(c) Calculate the perimeter of the deck (the straight edges plus the quarter-circle arc), correct to 2 decimal places.

(d) Calculate the cost of the edge trim.

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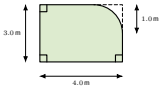
Read the scenario, then answer parts (a)-(d) in order.



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(a) Calculate the area of the decking needed (the rectangle's area, minus the missing corner square, plus the quarter-circle that replaces it).

Solution $A = (4.0)(3.0) - (1.0)^2 + \frac{1}{4}\pi(1.0)^2 \approx 11.79$ m^2.

(b) Calculate the total cost of the decking.

Solution $11.7854\ldots \times \$92 \approx \$1084.26$.

(c) Calculate the perimeter of the deck (the straight edges plus the quarter-circle arc), correct to 2 decimal places.

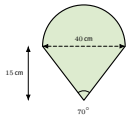
Solution $P = 2(4.0 + 3.0) - 2(1.0) + \frac{1}{2}\pi(1.0) \approx 13.57$ m.

(d) Calculate the cost of the edge trim.

Solution $13.5708\ldots \times \$11 \approx \$149.28$.

Plant Marker Signs

Find the area of one sign in cm^2 first, then convert to m^2 before pricing.



Question 6. A school garden orders 25 identical plant-marker signs, each shaped like a semicircle with a triangular point (a semicircular top on a triangular base). Each sign has a 40 cm diameter and a 15 cm triangular point depth. Acrylic material costs \$45 per m^2.

(a) Calculate the area of the semicircular section and the triangular point of one sign, in cm^2.

(b) Convert the area of one sign to m^2 (divide by $10\,000$), then find the total area needed for 25 signs.

(c) Calculate the total cost of the acrylic.

Plant Marker Signs

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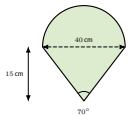

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(a) Calculate the area of the semicircular section and the triangular point of one sign, in cm^2.

Solution Semicircle (radius 20 cm): $\frac{1}{2}\pi(20)^2 \approx 628.32$ cm^2. Triangle: $\frac{1}{2}\times 40\times 15 = 300$ cm^2. Total ≈ 928.32 cm^2.

(b) Convert the area of one sign to m^2 (divide by $10\,000$), then find the total area needed for 25 signs.

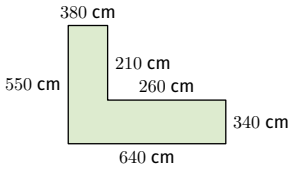
Solution $928.32 \div 10\,000 \approx 0.0928$ m^2 per sign. $25 \times 0.092832\ldots \approx 2.32$ m^2.

(c) Calculate the total cost of the acrylic.

Solution $2.3208\ldots \times \$45 \approx \$104.44$.

An L-Shaped Workshop Floor

Convert every dimension to metres before you calculate.



Question 1. An L-shaped workshop floor has these dimensions: left height 550 cm, top width 380 cm, inner drop 210 cm, inner horizontal 260 cm, right height 340 cm, bottom width 640 cm. Vinyl flooring costs \$34 per m^2, sold only in whole square metres.

(a) Convert all dimensions to metres, then calculate the total floor area.

(b) Determine how many square metres of vinyl must be bought, and the total cost.

An L-Shaped Workshop Floor

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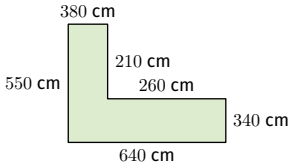

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(a) Convert all dimensions to metres, then calculate the total floor area.

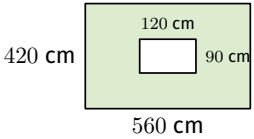
Solution $6.4 \times 3.4 = 21.76$ m^2; $3.8 \times 2.1 = 7.98$ m^2. Total $= 29.74$ m^2.

(b) Determine how many square metres of vinyl must be bought, and the total cost.

Solution Round UP $= 30$ m^2. Cost $= 30 \times \$34 = \$1020.00$.

Carpeting a Room with a Hearth

The hearth is not carpeted – convert to metres, then subtract its area.



Question 2. A room measures 560 cm by 420 cm. A fireplace hearth measuring 120 cm by 90 cm sits inside and is not carpeted. Carpet costs \$28 per m^2, and installation is a flat \$150.

(a) Convert all dimensions to metres, then calculate the area of carpet needed.

(b) Calculate the cost of the carpet.

(c) Find the total cost of the project, including installation.

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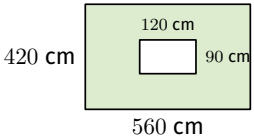


Question 2. A room measures 560 cm by 420 cm. A fireplace hearth measuring 120 cm by 90 cm sits inside and is not carpeted. Carpet costs \$28 per m^2, and installation is a flat \$150.

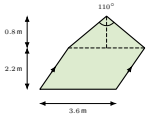
(a) Convert all dimensions to metres, then calculate the area of carpet needed.
Solution $5.6 \times 4.2 = 23.52$ m^2; hole $1.2 \times 0.9 = 1.08$ m^2. Area $= 22.44$ m^2.

(b) Calculate the cost of the carpet.
Solution $22.44 \times \$28 = \$628.32$.

(c) Find the total cost of the project, including installation.
Solution $\$628.32 + \$150 = \$778.32$.

Cladding a Carport Wall

Split the wall into the parallelogram section and the triangular gable.



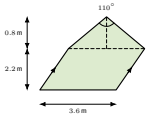
Question 3. A carport's side wall is a parallelogram 3.6 m wide and 2.2 m tall, with a triangular gable 0.8 m tall above it. Cladding sheets cover 2.5 m^2 each and cost \$65, sold only as whole sheets.

(a) Calculate the total area of the wall.

(b) Determine how many sheets are needed, and the total cost.

Cladding a Carport Wall

Split the wall into the parallelogram section and the triangular gable.



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(a) Calculate the total area of the wall.

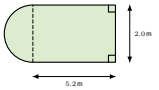
Solution Parallelogram $3.6 \times 2.2 = 7.92$ m^2. Gable $\frac{1}{2} \times 3.6 \times 0.8 = 1.44$ m^2. Total $= 9.36$ m^2.

(b) Determine how many sheets are needed, and the total cost.

Solution $9.36 \div 2.5 = 3.744$, round UP $= 4$ sheets. Cost $= 4 \times \$65 = \$260.00$.

Paving a Garden Path

Give the area and perimeter correct to 2 decimal places.



Question 4. A garden path shaped like a rectangle with a semicircular end is 5.2 m long (straight section) and 2.0 m wide. Paving costs \$58 per m^2, and edging is sold in 8 m rolls at \$65 each.

(a) Calculate the area of the path, then the cost of the paving.

(b) Calculate the perimeter, then determine how many rolls of edging are needed and the total cost.

Paving a Garden Path

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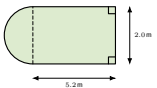

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(a) Calculate the area of the path, then the cost of the paving.

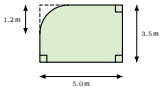
Solution $A \approx 11.97$ m^2. Cost $\approx 11.9708\ldots \times \$58 \approx \$694.31$.

(b) Calculate the perimeter, then determine how many rolls of edging are needed and the total cost.

Solution $P \approx 15.54$ m. $15.5416\ldots \div 8 \approx 1.94$, round UP $= 2$ rolls. Cost $= 2 \times \$65 = \$130.00$.

Paving a Rounded-Corner Patio

Give the area correct to 2 decimal places.



Question 5. A rectangular patio measures 5.0 m by 3.5 m, with one corner rounded off with a 1.2 m radius. Paving bags cover 0.9 m^2 each and cost \$14.50, sold only as whole bags.

(a) Calculate the area of the patio.

(b) Determine how many bags are needed, and the total cost.

Paving a Rounded-Corner Patio

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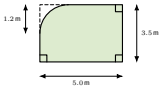


Question 5. A rectangular patio measures 5.0 m by 3.5 m, with one corner rounded off with a 1.2 m radius. Paving bags cover 0.9 m^2 each and cost \$14.50, sold only as whole bags.

(a) Calculate the area of the patio.

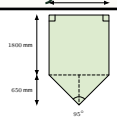
Solution $A = (5.0)(3.5) - (1.2)^2 + \frac{1}{4}\pi(1.2)^2 \approx 17.19$ m^2.

(b) Determine how many bags are needed, and the total cost.

Solution $17.1910\ldots \div 0.9 \approx 19.10$, round UP $= 20$ bags. Cost $= 20 \times \$14.50 = \$290.00$.

Cladding a Kennel Gable

Convert every dimension to metres before you calculate.



Question 6. A dog kennel's gable end is a 1800 mm square with a triangular roof section 650 mm tall above it. Cladding costs \$48 per m^2, plus a \$25 cutting fee.

(a) Convert the dimensions to metres, then calculate the total area of the gable end.

(b) Find the total cost, including the cutting fee.

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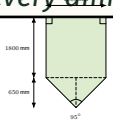


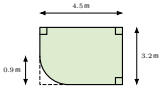
Question 6. A dog kennel's gable end is a 1800 mm square with a triangular roof section 650 mm tall above it. Cladding costs \$48 per m^2, plus a \$25 cutting fee.

(a) Convert the dimensions to metres, then calculate the total area of the gable end.
Solution 1800 mm $= 1.8$ m, 650 mm $= 0.65$ m. Square $= 3.24$ m^2. Gable $= \frac{1}{2} \times 1.8 \times 0.65 = 0.585$ m^2. Total $= 3.825$ m^2.

(b) Find the total cost, including the cutting fee.
Solution $3.825 \times \$48 = \$183.60$. Total $= \$183.60 + \$25 = \$208.60$.

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/m^2, free delivery over \$1200 (else \$80 delivery). **Supplier B:** \$95/m^2 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.

A Rounded-Corner Deck: Two Quotes

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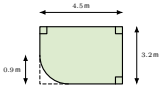


Question 1. A rectangular deck measures 4.5 m by 3.2 m, with one corner rounded off with a 0.9 m radius. **Supplier A:** \$88/m^2, free delivery over \$1200 (else \$80 delivery). **Supplier B:** \$95/m^2 less a 10% discount, delivery always free. Budget \$1300.

(a) Calculate the area of the deck.

Solution $A \approx 14.23$ m^2.

(b) Calculate the total cost from each supplier.

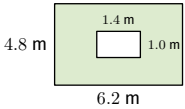
Solution A: $14.2262\ldots \times \$88 \approx \$1251.90$ (clears \$1200, free delivery). B: $14.2262\ldots \times \$95 \times 0.9 \approx \$1216.34$.

(c) Which supplier should be used, within budget? Justify your decision.

Solution Both fit. Supplier B is cheaper (\$1216.34 vs \$1251.90), even though A already gets free delivery.

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.

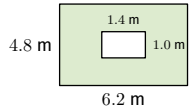
(a) Calculate the area of carpet needed.

(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.

Carpeting a Room: Two Quotes

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



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(a) Calculate the area of carpet needed.

Solution $6.2 \times 4.8 = 29.76$ m^2; hole $1.4 \times 1.0 = 1.4$ m^2. Area $= 28.36$ m^2.

(b) Calculate the total cost of Quote A (checking whether delivery is free) and of Quote B.

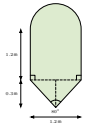
Solution A: $28.36 \times \$32 = \$907.52$; this already clears \$900, so delivery is free. B: $28.36 \times \$29 + \$150 = \$822.44 + \$150 = \$972.44$.

(c) Which quote should be accepted? Justify your decision.

Solution Quote A: it is \$64.92 cheaper (\$907.52 vs \$972.44) and already qualifies for free delivery.

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.

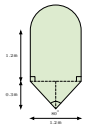
(a) Calculate the total area of the sign.

(b) Calculate the total cost from Supplier X and from Supplier Y.

(c) Which supplier should the school use? Justify your decision.

A School Sign: Two Suppliers

Compare the two suppliers by total cost.



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(a) Calculate the total area of the sign.

Solution Square 1.44 m^2; semicircle ≈ 0.57 m^2; triangle 0.18 m^2. Total ≈ 2.19 m^2.

(b) Calculate the total cost from Supplier X and from Supplier Y.

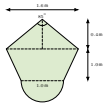
Solution X: $2.1855\ldots \times \$150 + \$40 \approx \$367.82$. Y: $2.1855\ldots \times \$175 \times 0.85 \approx \$325.09$.

(c) Which supplier should the school use? Justify your decision.

Solution Supplier Y: it is about \$42.73 cheaper (\$325.09 vs \$367.82), even though its listed rate per m^2 is higher, because the 15% discount outweighs Supplier X's flat fee.

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.

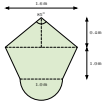
(a) Calculate the total area of the topper.

(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 Gate Topper: Two Materials

Compare the two material options within the given budget.



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(a) Calculate the total area of the topper.

Solution Trapezium 1.3 m^2; triangle 0.32 m^2; semicircle ≈ 0.39 m^2. Total ≈ 2.01 m^2.

(b) Calculate the total cost of the aluminium option and the timber option.

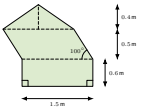
Solution Aluminium: $2.0127\ldots \times \$210 \approx \$422.67$. Timber: $2.0127\ldots \times \$165 + \$55 \approx \$387.10$.

(c) Both options fit the budget. Which should be chosen? Justify your decision, including a non-cost factor.

Solution Timber is \$35.57 cheaper, but aluminium needs no ongoing sealant maintenance – a buyer wanting low upkeep could reasonably choose aluminium instead.

A Garden Feature: Two Paint Options

Compare the two paint options by total cost.



Question 5. A garden feature combines a rectangle (1.5 m $\times$ 0.6 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.

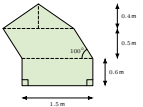
(a) Calculate the total area of the feature.

(b) For each option, calculate the total tins required and the total cost.

(c) Which option should be chosen? Justify your decision.

A Garden Feature: Two Paint Options

Compare the two paint options by total cost.



Question 5. A garden feature combines a rectangle (1.5 m $\times$ 0.6 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.

Solution Rectangle 0.9 m^2; parallelogram 0.75 m^2; triangle 0.3 m^2. Total $= 1.95$ m^2.

(b) For each option, calculate the total tins required and the total cost.

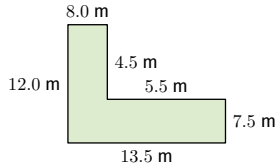
Solution Option 1: 2 coats need 3.9 m^2 of coverage, $3.9 \div 2 = 1.95$, round UP $= 2$ tins. Cost $= 2 \times \$39 = \$78$. Option 2: 1 coat needs 1.95 m^2, $1.95 \div 3 = 0.65$, round UP $= 1$ tin. Cost $= 1 \times \$52 = \$52$.

(c) Which option should be chosen? Justify your decision.

Solution Option 2: it is \$26 cheaper (\$52 vs \$78) and needs only 1 coat instead of 2, so it is both cheaper and less work.

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.

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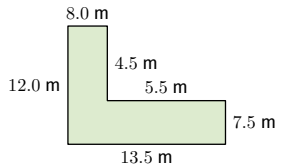

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(a) Calculate the perimeter, then the fencing needed once the gate gap is removed.
Solution $P = 51.0$ m. Needed $= 48.0$ m.

(b) Calculate the total cost of Option A and of Option B.
Solution A: 5 rolls. Cost $= 5 \times \$215 + \$180 = \$1255.00$. B: $48.0 \times \$26 + \$150 = \$1398.00$.

(c) Both options fit budget. Which should be chosen? Justify your decision.
Solution Option A: \$143 cheaper. Option B only just fits.