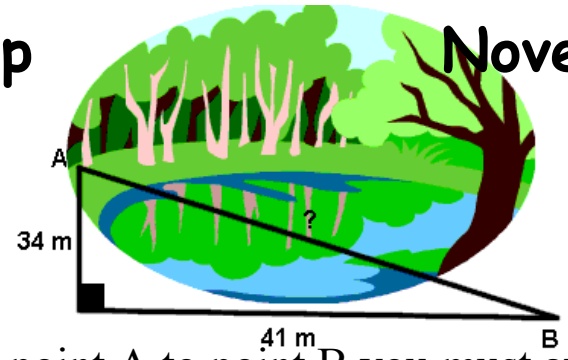
Warm-Up November 8, 2018



$c^2 = a^2 + b^2$

To get from point A to point B you must avoid walking through a pond. To avoid the pond, you must walk 34 meters south and 41 meters east. **To the *nearest meter*, how many meters would be saved if it werepossible to walk through the pond?**

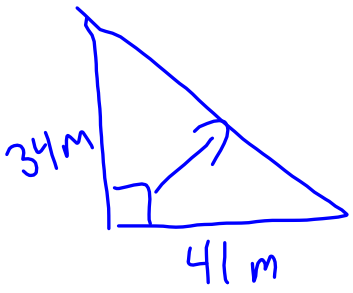
$c^2 = a^2 + b^2$

$c^2 = 41^2 + 34^2$

$c^2 = 1681 + 1156$

$c^2 = 2837$

$c = 53.45$



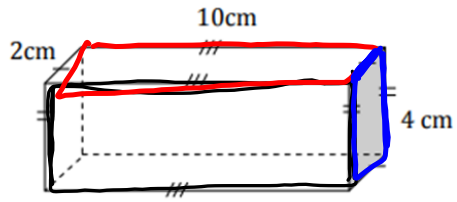
Around pond $34 + 41 = 75$

Through pond 53

Save 21.55

22m

Ex 1: Find the surface area.



F/B

x2 4

10

A = bh

= 10x4

= 40

x2

80

T/B

x2 2

10

A = bh

= 10x2

= 20

x2

40

Sides

x2 x2

4

A = bh

= 4x2

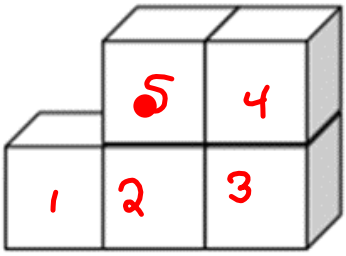
= 8

x2

16

Total Surface Area [TSA] = 80 + 40 + 16

= 136 cm²

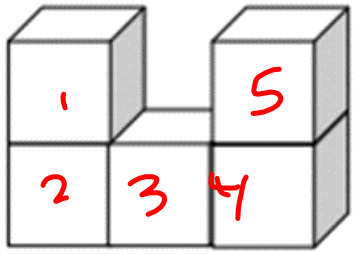


SA one cube

×6 | 1

1

A = bh
= 1 × 1
= 1
× 6
$6u^2$



① TSA = # of cubes × SA of 1 cube

5 × 6

30

② TSA − # faces lost

30 − 10

$20u^2$

① TSA = # of cubes × SA of 1 cube

5 × 6

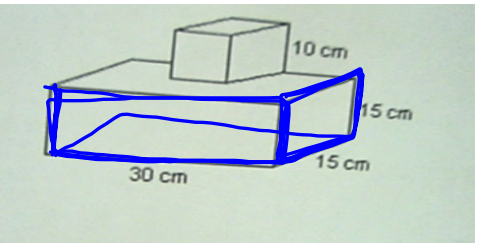
TSA = 30

② TSA − # faces lost

30 − 8

$22u^2$

Find the surface area of the following.



#I. SA of cube

x6 | 10 | 10

A = bh
= 10 x 10
= 100
x 6
600 cm²

#2. SA of Rectangular Prism.

T/B
x2 | 15 | 30

A = bh
= 30 x 15
= 450
x 2
900

F/B
x2 | 15 | 30

A = bh
= 30 x 15
= 450
x 2
900

Side
x2 | 15 | 15

A = bh
= 15 x 15
225
x 2
450

TSA = 900 + 900 + 450
= 2250

TSA = SA #1 + SA #2 − faces lost
600 + 2250 − 200
2650 cm²

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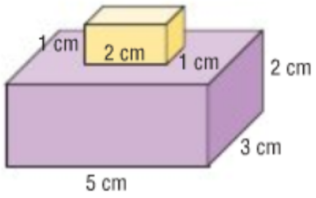
8. Determine the surface area of each composite object.
What effect does the overlap have on the calculation of the surface area?

a)



SA of small

SA of Big

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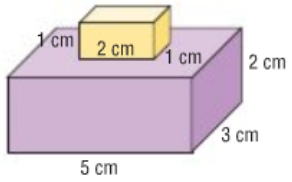
8. Determine the surface area of each composite object.
What effect does the overlap have on the calculation of the surface area?

a)



Small Rectangular Prism

T/B: ×2 → 1 → 2 → A = bh = 2 × 1 = 2 → ×2 → 4

F/B: ×2 → 1 → 2 → A = bh = 2 × 1 = 2 → ×2 → 4

Side: ×2 → 1 → 1 → A = bh = 1 × 1 = 1 → ×2 → 2

TSA = 10 cm²

Big Rectangular Prism

T/B: ×2 → 3 → 5 → A = bh = 5 × 3 = 15 → ×2 → 30

F/B: ×2 → 2 → 5 → A = bh = 5 × 2 = 10 → ×2 → 20

Side: ×2 → 2 → 3 → A = bh = 3 × 2 = 6 → ×2 → 12

TSA: 62 cm²

face lost

TSA small + TSA big − connecting

10 + 62 − 4 = 68 cm²

8 b)

SA small
SA medium
SA big