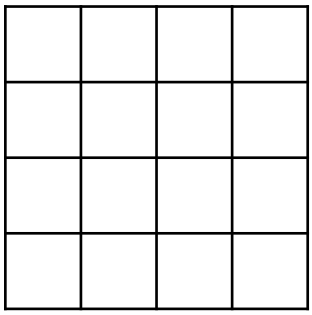
Area of Compound Shapes

1a. Each square has an area of 4cm².



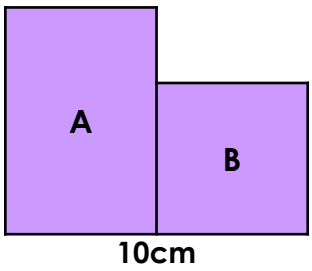
Show 3 different compound shapes that have an area of 16cm².

D

Not to scale

PS

2a. Add the missing lengths to make the following statement correct.



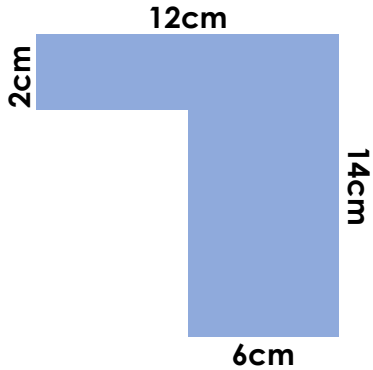
A has an area of 45cm² and B has an area of 25cm².

D

Not to scale

PS

3a. Muna thinks the area of the shape is 108cm².



Is Muna correct? Convince me.

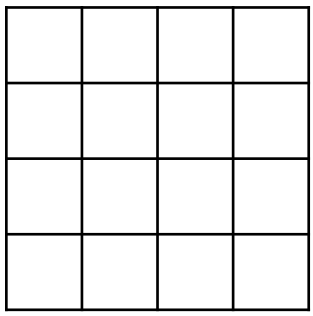
D

Not to scale

R

Area of Compound Shapes

1b. Each square has an area of 2cm².



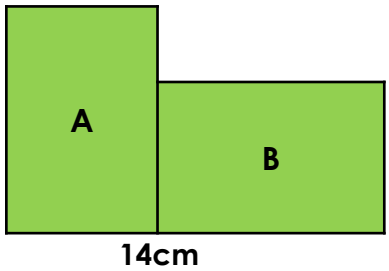
Show 3 different compound shapes that have an area of 12cm².

D

Not to scale

PS

2b. Add the missing lengths to make the following statement correct.



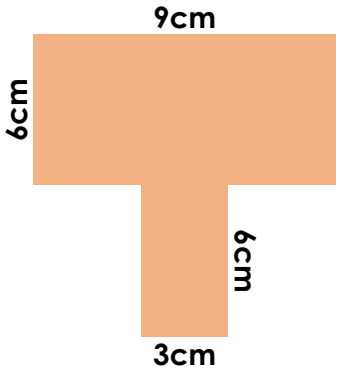
A has an area of 48cm² and B has an area of 48cm².

D

Not to scale

PS

3b. Ryan thinks the area of the shape is 24cm².



Is Ryan correct? Convince me.

D

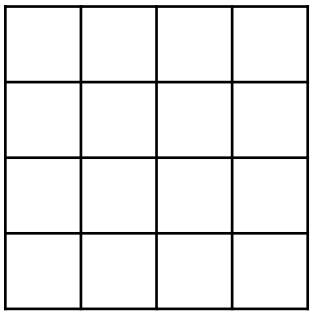
Not to scale

R

Area of Compound Shapes

Area of Compound Shapes

4a. Each square has an area of 400mm².

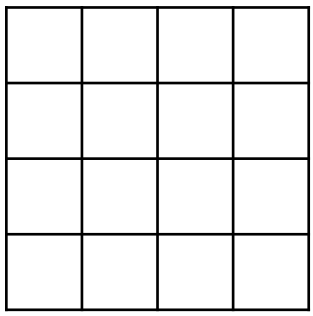


Show 4 different compound shapes that have an area of 36cm².

Not to scale

PS

4b. Each square has an area of 5cm².

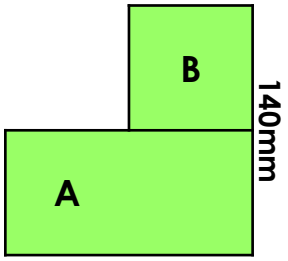


Show 4 different compound shapes that have an area of 400mm².

Not to scale

PS

5a. Add the missing lengths to make the following statement correct.

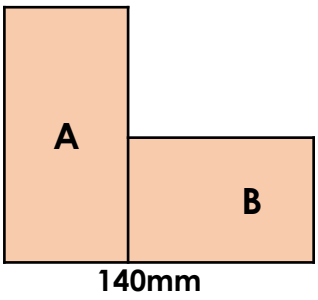


A has an area of 84cm² and B has an area of 49cm².

Not to scale

PS

5b. Add the missing lengths to make the following statement correct.

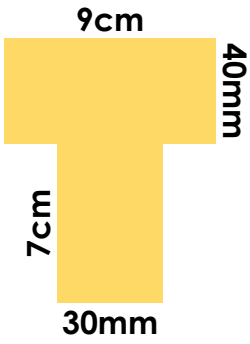


A has an area of 60cm² and B has an area of 48cm².

Not to scale

PS

6a. Josie thinks the area of the shape is 54cm².

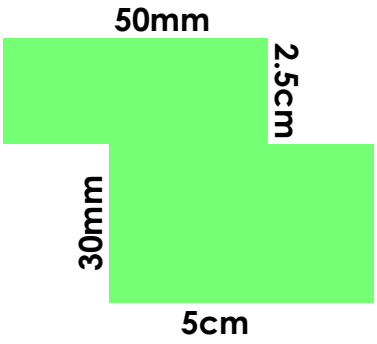


Is Josie correct? Convince me.

Not to scale

R

6b. Oscar thinks the area of the shape is 275cm².



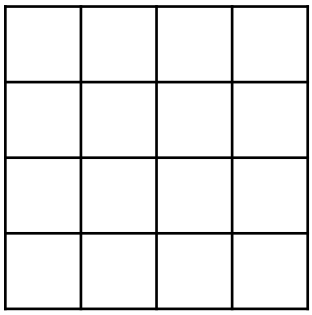
Is Oscar correct? Convince me.

Not to scale

R

Area of Compound Shapes

7a. Each square has an area of 1.5cm².

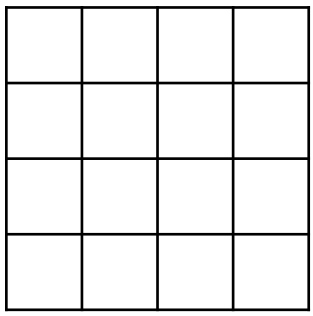


Show 5 different compound shapes that have an area of 120mm².

Not to scale

PS

7b. Each square has an area of 2.2cm².

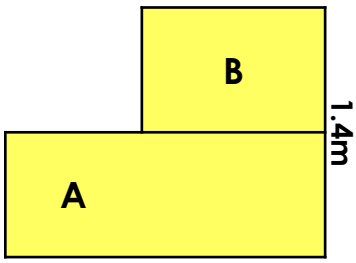


Show 5 different compound shapes that have an area of 220mm².

Not to scale

PS

8a. Add the missing lengths to make the following statement correct.

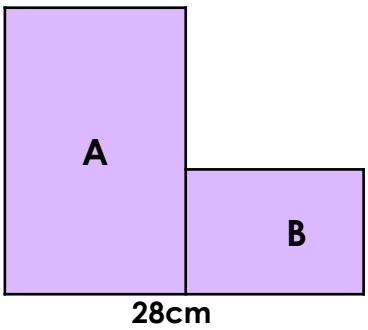


A has an area that is twice as large as B.

Not to scale

PS

8b. Add the missing lengths to make the following statement correct.

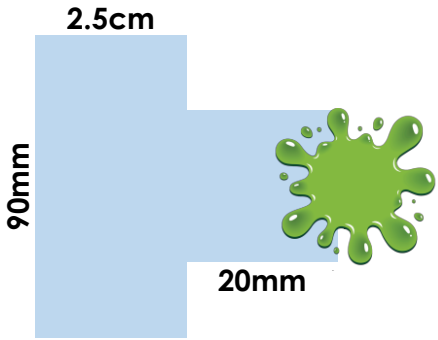


A has an area that is twice as large as B.

Not to scale

PS

9a. Flora thinks the area of the shape must be less than 30cm².

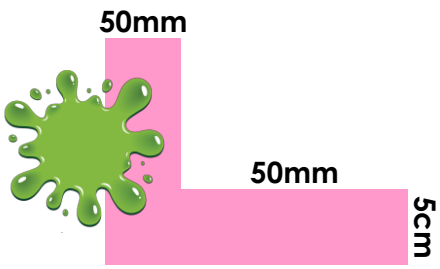


Is Flora correct? Convince me.

Not to scale

R

9b. Saul thinks the area of the shape must be bigger than 35cm².



Is Saul correct? Convince me.

Not to scale

R

Reasoning and Problem Solving
Area of Compound Shapes

Developing

1a. Various possible answers. Accept any compound shapes with an area of $16cm^2$. Each shape should have 4 squares shaded.

2a. A = 9 x 5 = $45cm^2$; B = 5 x 5 = $25cm^2$

3a. Muna is incorrect.
12cm x 2cm = $24cm^2$
12cm x 6cm = $72cm^2$
$72cm^2 + 24cm^2 = 96cm^2$

Expected

4a. Various possible answers. Accept any compound shapes with an area of $36cm^2$. Each shape should have 9 squares shaded.

5a. Various possible answers, including;
A = 7 x 12 = $84cm^2$; B = 7 x 7 = $49cm^2$

6a. Josie is incorrect.
9cm x 40mm = $36cm^2$
7cm x 30mm = $21cm^2$
$36cm^2 + 21cm^2 = 57cm^2$

Greater Depth

7a. Various possible answers. Accept any compound shape with an area of $12cm^2$. Each shape should have 8 squares shaded.

8a. Various possible answers, including;
A = 16 x 0.7 = $11.2m^2$; B = 8 x 0.7 = $5.6m^2$.
Accept any reasonable answer where A is twice as big as B.

9a. Flora is not correct. As the missing measurement is unclear, it is important to work out what we do know. We know that 9 x 2.5 = $22.5cm^2$ and we also know one of the other sides is 2cm. If the missing number is less than 3.75cm, then the total area would be less than $30cm^2$. However, the missing length could be greater than 3.75cm, so the area could be greater than $30cm^2$

Reasoning and Problem Solving
Area of Compound Shapes

Developing

1b. Various possible answers. Accept any compound shapes with an area of $12cm^2$. Each shape should have 6 squares shaded.

2b. Various possible answers, including;
A = 8 x 6 = $48cm^2$; B = 6 x 8 = $48cm^2$

3b. Ryan is incorrect. 9cm x 6cm = $54cm^2$
6cm x 3cm = $18cm^2$
$54cm^2 + 18cm^2 = 72cm^2$

Expected

4b. Various possible answers. Accept any compound shapes with an area of $40cm^2$ or $400mm^2$. Each shape should have 8 squares shaded.

5b. Various possible answers, including;
A = 6 x 10 = $60cm^2$; B = 8 x 6 = $48cm^2$

6b. Oscar is incorrect. He has not converted the lengths so that they are all the same unit. The correct answer should be; 2.5cm x 5cm = $12.5cm^2$
3cm x 5cm = $15cm^2$
$12.5cm^2 + 15cm^2 = 27.5cm^2$

Greater Depth

7b. Various possible answers. Accept any compound shape with an area of $22cm^2$. Each shape should have 10 squares shaded.

8b. Various possible answers, including;
A = 14 x 4 = $56cm^2$; B = 14 x 2 = $28cm^2$.
Accept any reasonable answer where A is twice as big as B.

9b. It is possible for Saul to be correct. We already know part of the shape's area as 5 x 5 = $25cm^2$. We also know that on the unlabelled rectangle, one side is 5cm. The missing side also appears to be longer than 5cm, (although the diagram is not to scale) so to multiply 5 by anything greater than 5 will most certainly give a total area that is greater than $35cm^2$.