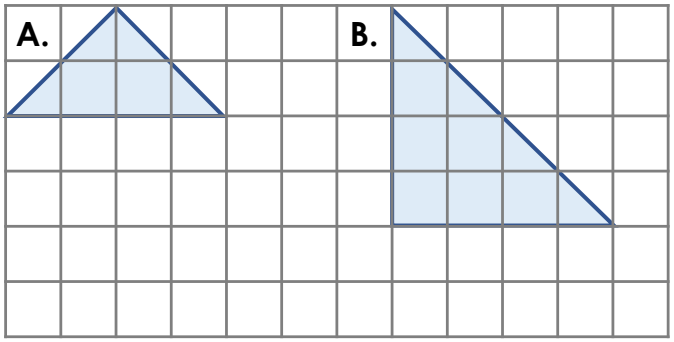
# Area of a Triangle 1

1a. Here are two triangles. Each square equals 1cm².



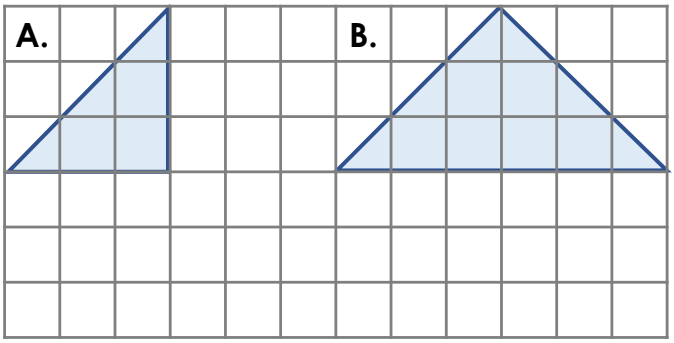

Create a question about the area of the triangles. Remember to include the answer.

D

*Not to scale*

PS

1b. Here are two triangles. Each square equals 1cm².




Create a question about the area of the triangles. Remember to include the answer.

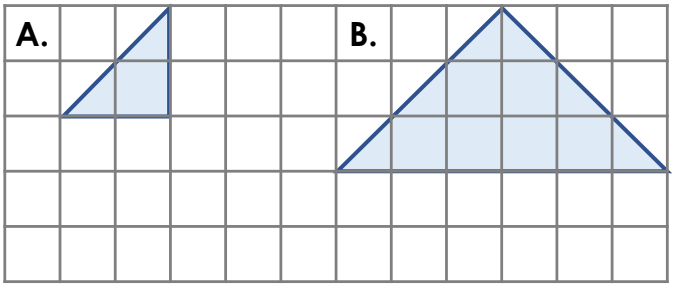
D

*Not to scale*

PS

2a. Ben has estimated the area of these triangles by counting the squares.

1 square = 1cm²




A = 1cm² B = 9cm²

Do you agree with his estimations? Explain why.

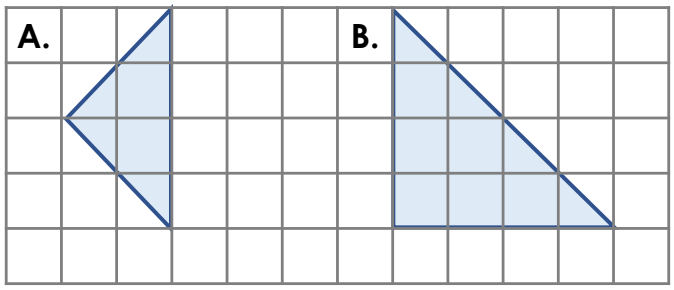
D

*Not to scale*

R

2b. Sadia has estimated the area of these triangles by counting the squares.

1 square = 1cm²




A = 4cm² B = 10cm²

Do you agree with her estimations? Explain why.

D

*Not to scale*

R

3a. Kelly is drawing a right-angled triangle.

She says,

My triangle has an area of 4cm².

Use squared paper to draw a triangle with the same area as Kelly's.

D

PS

3b. Harry is drawing a right-angled triangle.

He says,

My triangle has an area of 6cm².

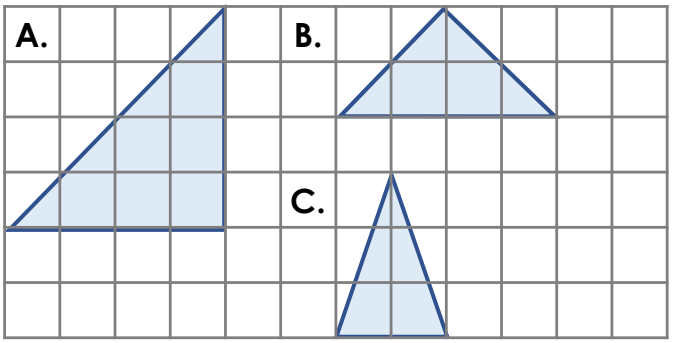
Use squared paper to draw a triangle with the same area as Harry's.

D

PS

# Area of a Triangle 1

4a. Here are three triangles. Each square equals 1cm².




Create three questions about the area of the triangles. Remember to include answers.

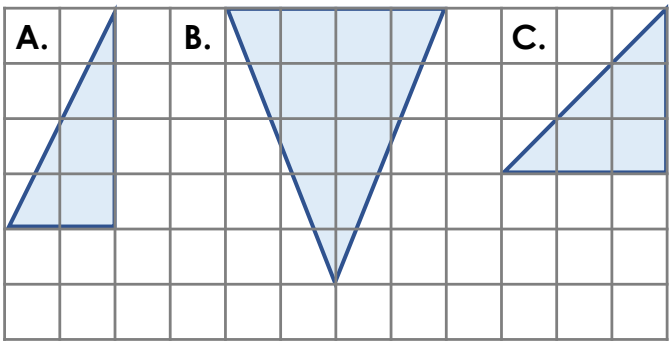
E

*Not to scale*

PS


# Area of a Triangle 1


4b. Here are three triangles. Each square equals 1cm².




Create three questions about the area of the triangles. Remember to include answers.

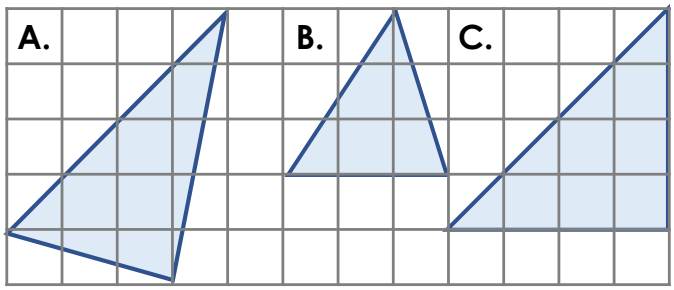
E

*Not to scale*

PS

5a. Jude has estimated the area of these triangles by counting the squares.

1 square = 1cm²




A = 10cm² B = 4.5cm² C = 6cm²

Do you agree with his estimations? Explain why.

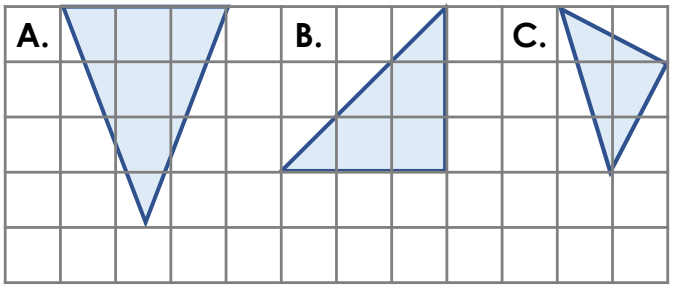
E

*Not to scale*

R

5b. Ellie has estimated the area of these triangles by counting the squares.

1 square = 1cm²




A = 6.5cm² B = 4.5cm² C = 3cm²

Do you agree with her estimations? Explain why.

E

*Not to scale*

R

6a. Adela is drawing a triangle.

She says,

My triangle has an area of 12cm².

Use squared paper to draw triangles with the same area as Adela's.

E

PS

6b. Imran is drawing a triangle.

He says,

My triangle has an area of 16cm².

Use squared paper to draw triangles with the same area as Imran's.

E

PS

# Area of a Triangle 1

7a. Use squared paper to draw 3 triangles which each have a different area.

Imagine each square is worth 2cm².

Create three questions about the area of the triangles.

Remember to include answers.

GD PS

# Area of a Triangle 1

7b. Use squared paper to draw 3 triangles where 2 have the same area.

Imagine each square is worth 3cm².

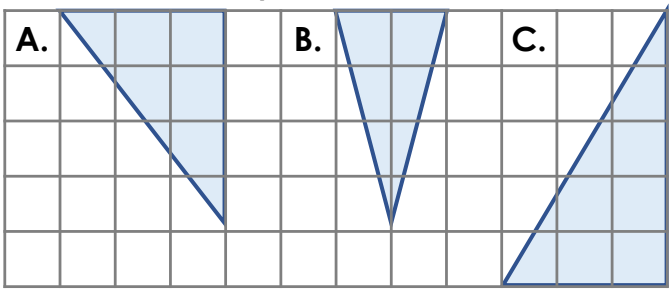
Create three questions about the area of the triangles.

Remember to include answers.

GD PS

8a. Ali has estimated the area of these triangles by counting the squares.

1 square = 3cm²



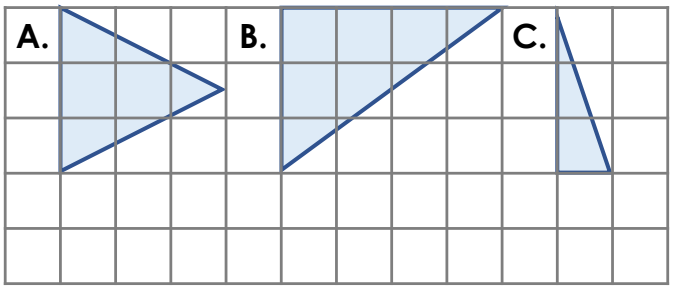

A = 6cm² B = 4cm² C = 7.5cm²

Do you agree with his estimations? Explain why.

GD *Not to scale* R

8b. Lily has estimated the area of these triangles by counting the squares.

1 square = 2cm²




A = 13.5cm² B = 18cm² C = 4.5cm²

Do you agree with her estimations? Explain why.

GD *Not to scale* R

9a. Bella is drawing a triangle.

She says,

My triangle has an area of 18cm². One of its sides is 12cm long.

Use squared paper to draw triangles with the same properties as Bella's. Imagine each square is worth 2cm².

GD PS

9b. Alfie is drawing a triangle.

He says,

My triangle has an area of 30cm². One of its sides is 15cm long.

Use squared paper to draw triangles with the same properties as Alfie's. Imagine each square is worth 3cm².

GD PS

## Reasoning and Problem Solving
## Area of a Triangle 1

### Developing

**1a.** Various answers, for example:
Which triangle has the smallest area? (A)

**2a.** Various answers, for example:
No because although he has estimated triangle B correctly, he has only counted one square for triangle A, despite there being more than 1.

**3a.** Accept any right-angled triangle, with an accurate area of $4cm^2$.

### Expected

**4a.** Various answers, for example:
Which triangle has the largest area? (A); Order the triangles from the smallest area to the largest. (C, B, A); What similarities and differences do you notice about the triangles? (B and C are right-angled triangles, A is an isosceles triangle)

**5a.** Various answers, for example:
No because although he has estimated triangle A and B correctly, his estimation for triangle C is too low; it has an area closer to $8cm^2$, not $6cm^2$.

**6a.** Accept any triangles with an accurate area of $12cm^2$.

### Greater Depth

**7a.** All triangles must have a different area. Three questions with an answer.

**8a.** Various answers, for example:
No because he has not multiplied the total squares by 3; they need to be multiplied because each square is worth $3cm^2$, not $1cm^2$. His estimations should be:
A = $18cm^2$, B = $12cm^2$, C = $22.5cm^2$.

**9a.** Accept any triangles with at least one side which is 12cm long, and an accurate area of $12cm^2$ (where each square represents $2cm^2$).

## Reasoning and Problem Solving
## Area of a Triangle 1

### Developing

**1b.** Various answers, for example:
What is the difference between the area of the triangles? ($4.5cm^2$)

**2b.** Various answers, for example:
No because although she has estimated triangle A correctly, her estimation for triangle B is too high; it has an area closer to $8cm^2$, not $10cm^2$.

**3b.** Accept any right-angled triangle, with an accurate area of $6cm^2$.

### Expected

**4b.** Various answers, for example:
Which triangle has an area of $4.5cm^2$? (C); What is the difference in area between triangle A and triangle B? ($6cm^2$); What is the total area of all three triangles? ($18.5cm^2$)

**5b.** Various answers, for example:
I agree with Ellie's estimations because all of her estimations are either correct, or close to being correct; triangle A has an actual area of $6cm^2$, so her estimation is only $0.5cm^2$ over.

**6b.** Accept any triangles with an accurate area of $16cm^2$.

### Greater Depth

**7b.** All triangles must have a different area. Three questions with an answer.

**8b.** Various answers, for example:
Nom because she has multiplied the total squares by 3 instead of 2; each square is worth $2cm^2$, not $3cm^2$. Her estimations should be: A = $9cm^2$, B = $12cm^2$, C = $3cm^2$.

**9b.** Accept any triangles with at least one side which is 15cm long, and an accurate area of $30cm^2$ (where each square represents $3cm^2$).