

# Shape Statements

## 1. James says:

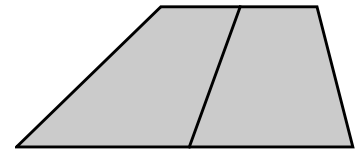
If you draw two shapes, the shape with the greater area will also have the longer perimeter.

**Is James' statement Always, Sometimes or Never True?**

Fully explain and illustrate your answer.

## 2. Clara says:

If you join the midpoints of the opposite sides of a trapezoid, you split the trapezoid into two equal areas.

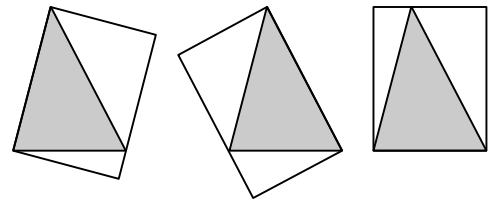


**Is Clara's statement Always, Sometimes or Never True?**

Fully explain and illustrate your answer.

## 3. Alex says:

There are three different ways of drawing a rectangle around a triangle, so that it passes through all three vertices and shares an edge. The areas of the rectangles are equal.



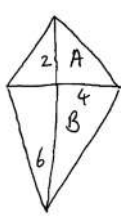
**Is Alex's statement Always, Sometimes or Never True?**

Fully explain and illustrate your answer.

# Student Work: Diagonals of a Quadrilateral

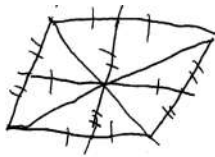
Below is some work by two students. Assess their work by answering these questions:

- What do you like about the work?
- Has the student made any assumptions?
- Is the work accurate?
- How can the explanation be improved?



A	B
$\frac{1}{2} \cdot 4 \cdot 2$	$\frac{1}{2} \cdot 4 \cdot 6$
$\frac{1}{2} \cdot 8$	$\frac{1}{2} \cdot 24$
$\neq 4$	12

Kite = not true



All triangles are congruent  
(SSS)

Parallelogram = always true

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