

Name

Date



EXPLORING 2D SHAPES SHEET 5

ALWAYS, SOMETIMES OR NEVER TRUE?





For each of the statements below, tick whether they are always true, sometimes true or never true. Can you explain your reasoning by drawing or writing?

	STATEMENT	ALWAYS, SOMETIMES OR NEVER TRUE?	REASONING
1)	A trapezoid has exactly one right angle.	ALWAYS SOMETIMES NEVER	
2)	The radius of a circle is half the diameter.	ALWAYS SOMETIMES NEVER	
3)	The opposite angles of a parallelogram are equal.	ALWAYS SOMETIMES NEVER	
4)	A kite has a line of symmetry.	ALWAYS SOMETIMES NEVER	
5)	A triangle has exactly two mirror lines.	ALWAYS SOMETIMES NEVER	
6)	A parallelogram has exactly two lines of symmetry.	ALWAYS SOMETIMES NEVER	



EXPLORING 2D SHAPES SHEET 5 ANSWERS

ALWAYS, SOMETIMES OR NEVER TRUE?

	STATEMENT	ALWAYS, SOMETIMES OR NEVER TRUE?	REASONING
1)	A trapezoid has exactly one right angle.	ALWAYS SOMETIMES NEVER	A trapezoid either has none, two or four right angles. (*) 
2)	The diameter of a circle is half the radius.	ALWAYS SOMETIMES NEVER	The radius of a circle is always equal to half the diameter, not the other way round!
3)	The opposite angles of a parallelogram are equal.	ALWAYS SOMETIMES NEVER	This is always true.  <div style="border: 1px solid black; padding: 5px; width: fit-content;"> <p>Equal angles: The red angles are equal. The blue angles are equal.</p> </div>
4)	A kite has a line of symmetry.	ALWAYS SOMETIMES NEVER	All kites have at least one line of symmetry. 
5)	A triangle has exactly two mirror lines.	ALWAYS SOMETIMES NEVER	A triangle can have none, one or three lines of symmetry but never two!
6)	A parallelogram has exactly two lines of symmetry.	ALWAYS SOMETIMES NEVER	Parallelograms can have 0, 2 or 4 lines of symmetry. This rectangle, which is a parallelogram, has two. 

(*) Most mathematicians define a trapezoid as have at least one pair of parallel lines (therefore including squares, rectangles, parallelograms, etc as special cases of a trapezoid).