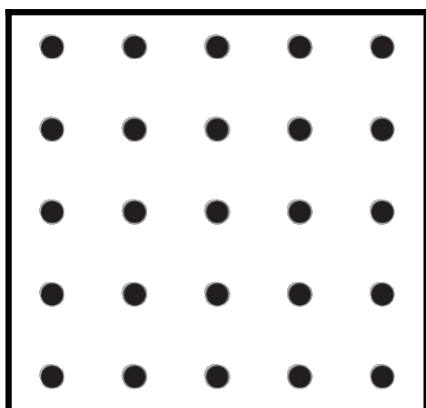# Angles in Quadrilaterals

Angles in Quadrilaterals

1a. Draw and label a square and a rectangle on the geoboard below.

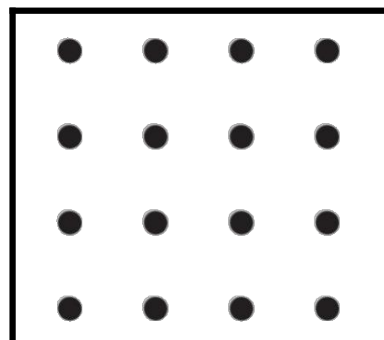Shapes may share pegs but sides should not cross.

⭐D   PS

1b. Draw and label a different sized square and rectangle on the geoboard below.

Shapes may share pegs but sides should not cross.

⭐D   PS

2a. True or false?

A square has four sides of equal length, two pairs of parallel sides and four angles that each measure 60°.

Explain your answer.

⭐D   R

2b. True or false?

All four angles in a rhombus are acute.
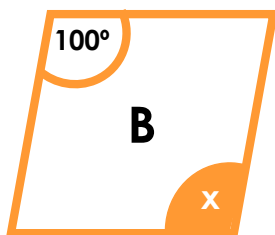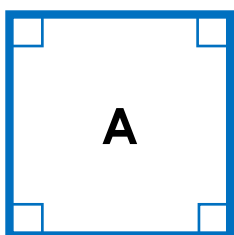
Explain your answer.

⭐D   R

3a. Find the shape being described.

The opposite angles of the shape are equal and have a sum of 180°.
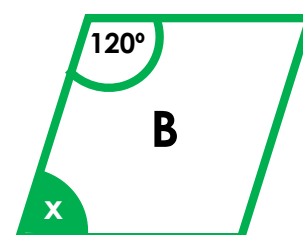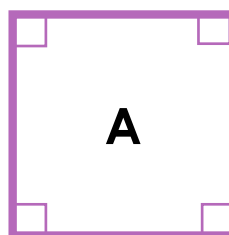
A

B
100°
x

Calculate angle x.

⭐D   *Quadrilaterals not drawn to scale.*   PS

3b. Find the shape being described.

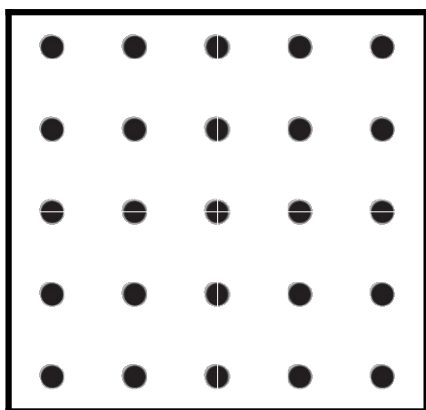*All four sides are the same length and two of the angles are acute.*

A

B
120°
x

Calculate angle x.

⭐D   *Quadrilaterals not drawn to scale.*   PS

Angles in Quadrilaterals

Angles in Quadrilaterals

4a. Draw and label two quadrilaterals on the geoboard below.
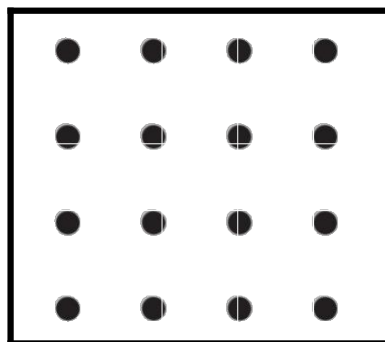
Shapes may share pegs but sides should not cross.

⭐ E   PS

4b. Draw and label two different quadrilaterals on the geoboard below.

Shapes may share pegs but sides should not cross.

⭐ E   PS

5a. True or false?

> Parallelograms have four sides of equal length.

Explain your answer.

⭐ E   R

5b. True or false?

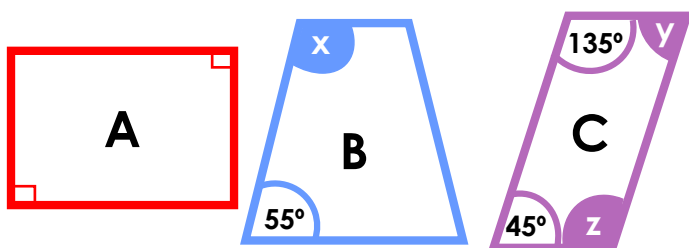> A rectangle has two long sides and two short sides, so one pair of angles are a different size.

Explain your answer.

⭐ E   R

6a. Find the shape being described.

The missing angles of this shape will equal 305º. The shape can be split into 3 equal isosceles triangles.

A

x
B
55º

135º   y
C
45º   z

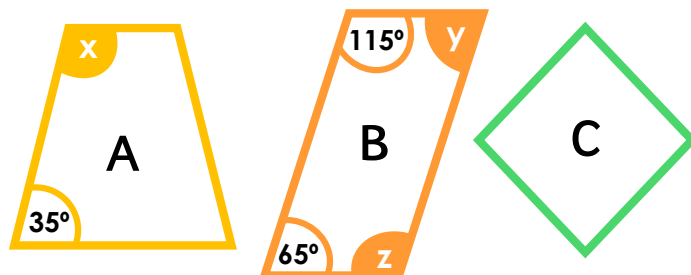Calculate the angles marked x, y and z.

⭐ E   *Quadrilaterals not drawn to scale.*   PS

6b. Find the shape being described.

The shape has two acute angles. Only two sides of the shape are parallel.

x
A
35º

115º   y
B
65º   z

C

Calculate the angles marked x, y and z.

⭐ E   *Quadrilaterals not drawn to scale.*   PS

---

classroomsecrets.co.uk

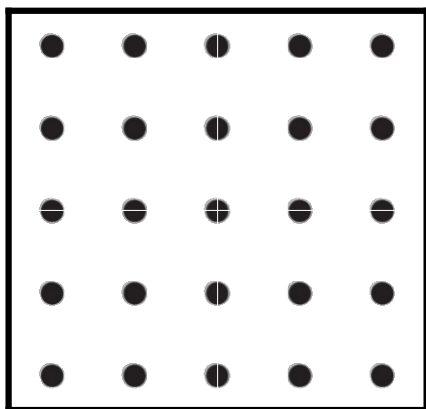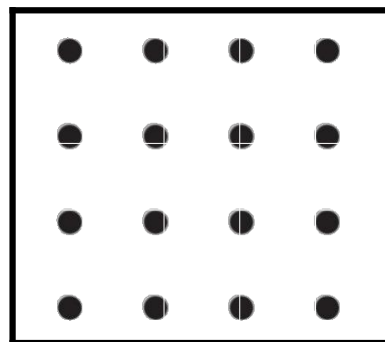**Reasoning and Problem Solving – Angles in Quadrilaterals – Year 6 Expected**

Angles in Quadrilaterals

7a. Draw and label a compound shape made up of two squares, rhombuses, trapeziums, rectangles or parallelograms.

⭐GD   PS

8a. True or false?

Two rhombuses together will create a rectangle.

Explain your answer.

⭐GD   R

9a. Find the shape being described.

Identify the shape with the most lines of symmetry.

A

B
107°   y
x   73°

C
z
53°

Calculate the angles marked x, y and z.

⭐GD   *Quadrilaterals not drawn to scale.*   PS

Angles in Quadrilaterals

8b. True or false?

When I combine two trapeziums together like the one below, I can only make six sided shapes.

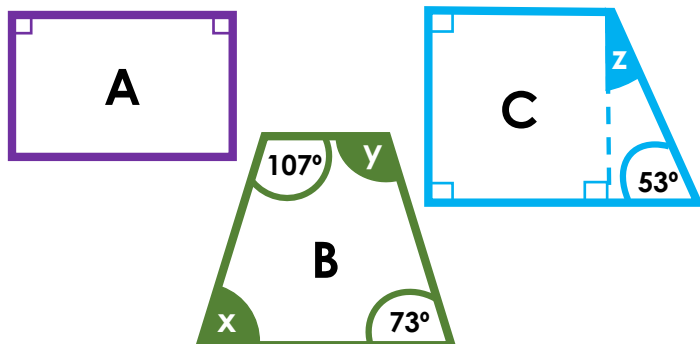**Explain your answer.**

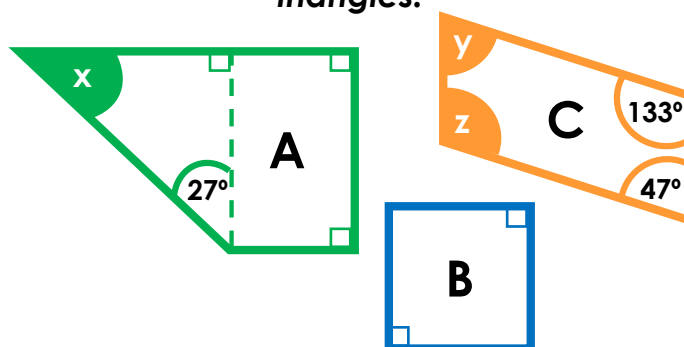⭐GD   R

9b. Find the shape being described.

This shape can be split into 4 equal triangles.

A
x
27°

C
y
z   133°
47°

B

Calculate the angles marked x, y and z.

⭐GD   *Quadrilaterals not drawn to scale.*   PS

---

classroomsecrets.co.uk
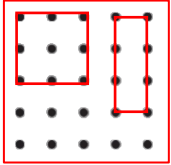
Reasoning and Problem Solving – Angles in Quadrilaterals – Year 6 Greater Depth

Reasoning and Problem Solving
Angles in Quadrilaterals

Developing
1a. Various possible answers, including:

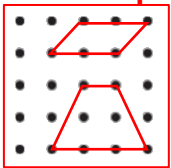**2a.** False because a square has four right angles that each measure 90º.
3a. Shape A is being described.
Angle x = 100º.

Expected
4a. Various possible answers, including:

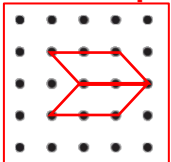**5a.** False as only opposite sides are equal length.
6a. Shape B is being described.
Angle x = 125º, Angle y = 45º,
Angle z = 135º

Greater Depth
7a. Various possible answers, including:

8a. False because two rhombuses together will create a parallelogram.
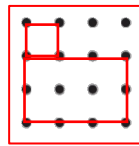**9a.** Shape A is being described.
Angle x = 73º, Angle y = 107º,
Angle z = 37º

Reasoning and Problem Solving
Angles in Quadrilaterals

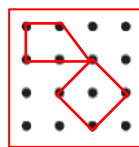### Developing
1b. Various possible answers, including:

2b. False because two angles are acute and two angles are obtuse.
3b. Shape B is being described.
Angle x = 60º.

Expected
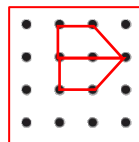**4b.** Various possible answers, including:

5b. False because a rectangle has four right angles that each measure 90º.
6b. Shape A is being described.
Angle x = 145º, Angle y = 65º, Angle z = 115º

Greater Depth
7b. Various possible answers, including:

8b. False, as he can also make a four sided shape e.g.

9b. Shape B is being described.
Angle x = 63º, Angle y = 47º,
Angle z = 133º

classroomsecrets.co.uk