**Shape Unit 3**

**Problem solving and reasoning questions**

Draw a shape with 2 right angles that is not a square.

Identify any angle in this shape that is more than 90 degrees.

Set a clock to 3 o’clock.

Move the minute hand clockwise through 3 right angles.

What is the time?

What is the angle between the hands of a clock at 6 o’clock?

Draw a triangle with 1 angle less than 90 degrees and 1 angle more than 90 degrees.

Is the third angle more or less than a right angle?

True or false?

* A horizontal line is always at right angles with a vertical line.
* All shapes with 2 pairs of parallel lines are rectangles.
* A pair of perpendicular lines must be horizontal and vertical.

**Shape Unit 3**

**Problem solving and reasoning: Answers**

Draw a shape with two right angles that is not a square.

Identify any angle in this shape that is more than 90 degrees.

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This is just one possibility; in this example the angle marked **\*** is more than 90 degrees.

Set a clock to 3 o’clock.

Move the minute hand clockwise through 3 right angles.

What is the time? 3:45 or quarter to 4.

What is the angle between the hands of a clock at 6 o’clock? 180 degrees.

Draw a triangle with 1 angle less than 90 degrees and 1 angle more than 90 degrees.

Is the third angle more or less than a right angle?

This is just one possibility. Since one angle is more than 90 degrees and the angle sum of a triangle is 180 degrees the third angle must be less than a right angle.

True or false?

* A horizontal line is always at right angles with a vertical line.

True – e.g. the squares in an exercise book.

* All shapes with 2 pairs of parallel lines are rectangles.

False – A parallelogram has 2 pairs of parallel lines but is not a rectangle, i.e.

* A pair of perpendicular lines must be horizontal and vertical.

False - they can be in any orientation as long as they are at right angles to each other.