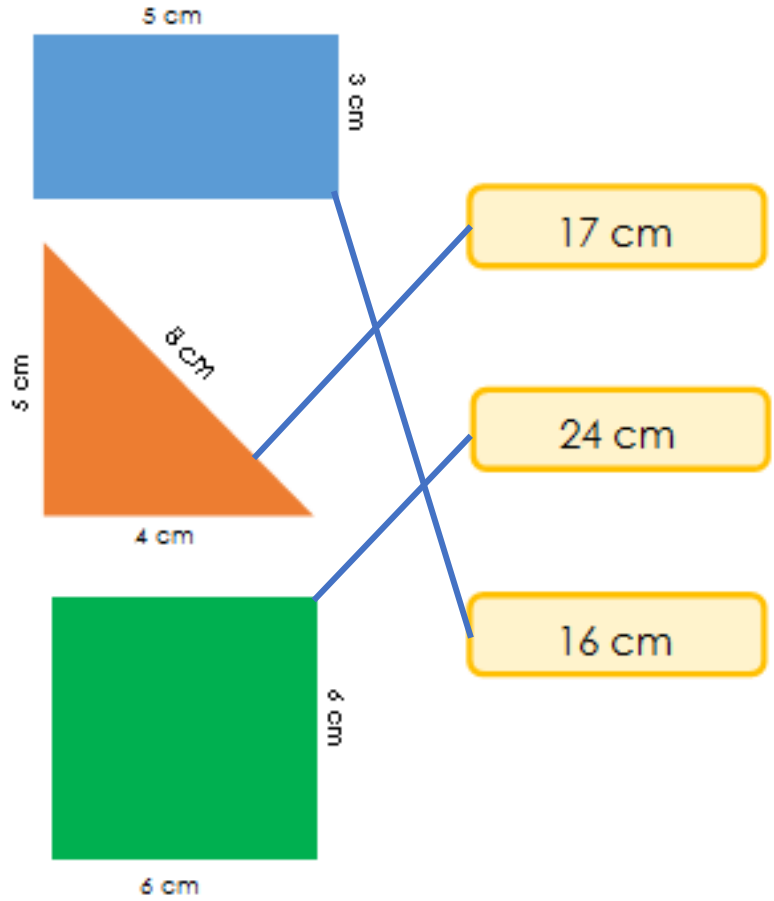
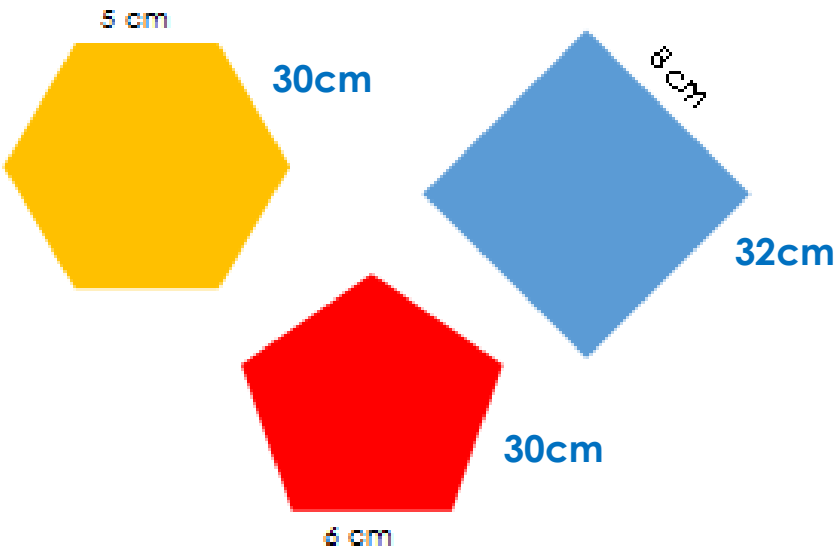
DEEPENING UNDERSTANDING ANSWER SHEET

YEAR 3 PIM – CALCULATE PERIMETER

Fluency 1



Fluency 2



Fluency 3

The squares sides measure 4cm each.

Reasoning 1

Modelled DAB Reasoning Response

D – It is false

A – There are not three different possibilities for the sides' length.

B – They could measure

2cm, 2cm, 7cm and 7cm

3cm, 3cm, 6cm and 6cm

But not

1cm, 1cm, 8cm and 8cm

4cm, 4cm, 5cm and 5cm because the proportions of the rectangle would be incorrect.

Reasoning 2

Modelled DAB Reasoning Response

D – The shapes have the same perimeter.

A – The square's perimeter is 9cm x4 which is 36cm.

B – For the rectangle to have a perimeter of 36cm then the missing side must be 12cm because 6cm + 6cm + 12cm + 12cm = 36cm

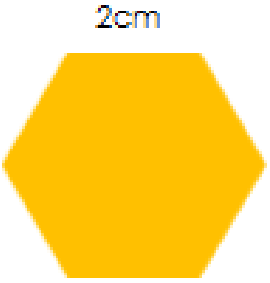
Reasoning 3

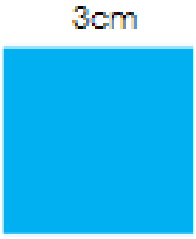
Modelled DAB Reasoning Response

D – They could all have a perimeter of 12cm.

A – To calculate the perimeter, you divide 12cm by the number of sides

B – The hexagon and square both have an even number of sides of the same length so could have a perimeter of 12cm.





2cm x 6 = 12cm

3cm x 4 = 12cm

The pentagon has an odd number of sides but the perimeter can be calculated the same way so each side will measure 2cm and 4 mm.

Reasoning 4

Modelled DAB Reasoning Response

D – I agree with Ranjit.

A – If you are measuring the perimeter of a regular shape, all the sides are the same length so you only need to know the length or one side to work out the perimeter.

Other shapes will have opposite lengths the same so you only need to know a few of the lengths to work out the perimeter.

B –

The rectangle has two side's lengths shown because the opposite side is the same length so its perimeter is 12cm.

The rotated square has all of its sides the same lengths so its perimeter is 12cm.

Download our 'DAB' posters to support reasoning in your classroom:

https://www.deepeningunderstanding.co.uk/product/dab-reasoning-posters/

Problem Solving 1

Children should calculate that the length of fence panels needed is 35m.

A = 35m x £2 = £70

B = 35m ÷ 5 = 7 x £8 = £56

C = 35m ÷ 4 = 8.75 x £6.50 = £56.87

D = 35m ÷ 2 = 17.5 x 4 = £70

The cheapest way to buy the fence panels would be to use B and spend £56.

Problem Solving 2

Possibilities of rectangles with a perimeter of 24cm are 2 sides each with a length of:

1cm and 11cm

2cm and 10cm

3cm and 9cm

4cm and 8cm

5cm and 7cm

A square with sides measuring 6cm could be drawn as it is a regular rectanlge

Possibilities for rectangles with a perimeter of 36cm are: