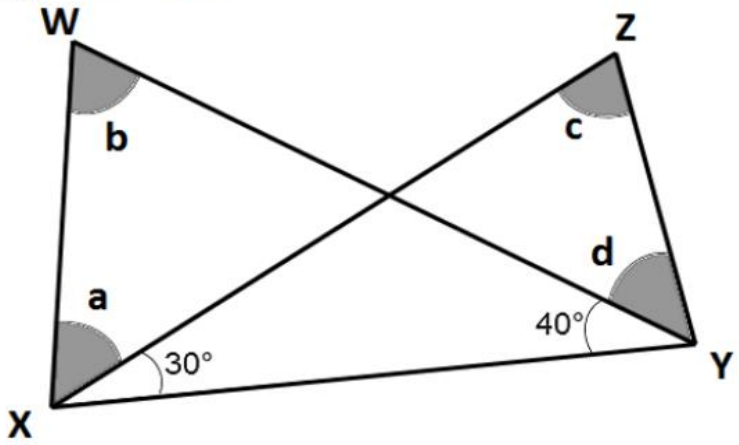
Further Maths Puzzle - Solution

Look at triangle WXY first.

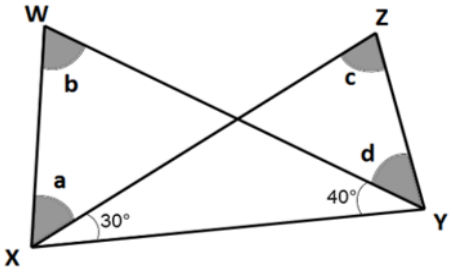


Its angles should total 180˚, so we know that…

$$b + (a + 30) + 40 = 180$$

Rearranging

$$a + b = 180 - 40 - 30$$
$$a + b = 110^\circ$$



Now let's examine triangle XYZ. Its angles should also total 180˚, so we know that…

$$30 + (40 + d) + c = 180$$

Rearranging

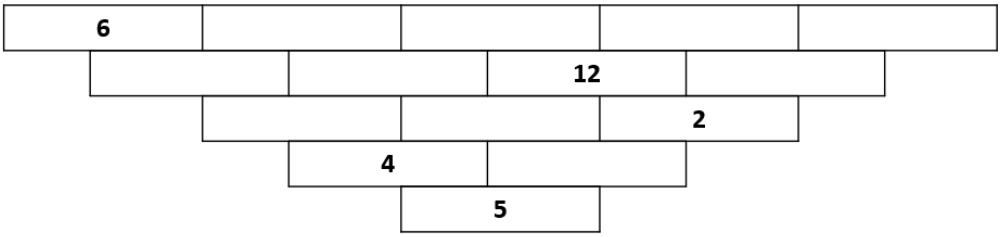
$$c + d = 180 - 30 - 40$$
$$c + d = 110^\circ$$

Combining this, we see that the sum of the 4 angles is…

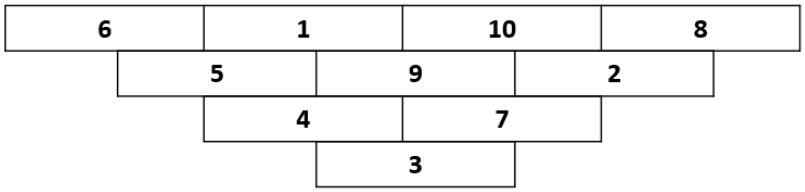
$$a + b + c + d = (a + b) + (c + d)$$
$$= 110 + 110$$
$$= 220^\circ$$

Complete the triangle below

The numbers 1-15 are arranged such that the number below each pair of numbers is the difference between those two numbers



Here is an example using the numbers 1-10



Solution