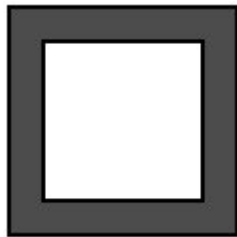


Area and decimals (Junior UKMT)

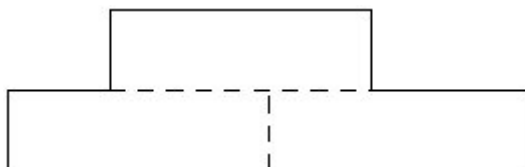
These questions must be attempted **without a calculator**

Topics covered in the questions below may not necessarily be from the topic of the title.

1. The diagram shows a single floor tile in which the outer square has side 8cm and the inner square has side 6cm. If Adam Ant walks once around the perimeter of the inner square and Annabel Ant walks once around the perimeter of the outer square, how much further does Annabel walk than Adam?

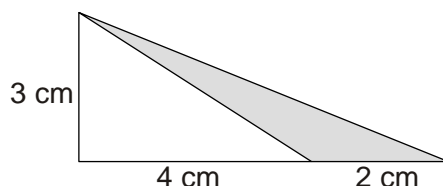


- A 2 cm B 4 cm C 6 cm D 8 cm E 16 cm
2. I owe fifty-five people £55 each. In my piggy bank I have fifty £50 notes and five £5 notes.
- Is this enough to pay all my debts?
- A Yes, exactly right B Yes, with a few pounds to spare C Yes, with lots left over
D No, a few pounds too little E No, far too little
3. The shape below is made up of three rectangles, each measuring 3cm by 1cm.



- A 16 cm B 18 cm C 20 cm D 24 cm E More information needed
4. A right-angled triangle has the dimensions as shown.

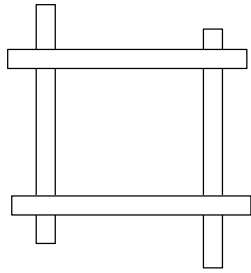
What is the area (in cm^2) of the shaded region?



- A 3 B 6 C 9 D 12 E 24
5. What is two and thirty-four hundredths when written as a decimal?
- A 0.234 B 2.034 C 2.34 D 234.00 E 23400

6. Four rectangular paper strips, each measuring 10 cm by 1 cm, are laid flat on a table. Each strip is at right angles to two of the other strips as shown.

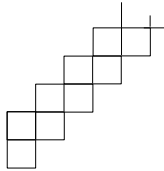
What is the area of the table covered by the strips?



- A 30 cm^2 B 32 cm^2 C 34 cm^2 D 36 cm^2 E 38 cm^2

7. A shape consisting of 2004 small squares is made by continuing the pattern shown in the diagram. The small squares have sides of length 1 cm.

What is the length, in cm, of the perimeter of the whole shape?



- A 4008 B 4010 C 6012 D 6016 E 8016

8. If the line below was 0.2 mm thick, how many metres long would the line need to be to cover an area of one square metre?



- A 0.5 B 5 C 50 D 500 E 5000

9. How much smaller is the area of a 60cm by 40cm rectangle than that of a square with the same perimeter?

- A 0 cm^2 B 10 cm^2 C 20 cm^2 D 40 cm^2 E 100 cm^2

10. A rectangular piece of card measuring 30 cm by 24 cm is cut into two equal pieces which can be reassembled to form another rectangle measuring 18 cm by 40 cm.

Which diagram shows the original rectangle and the cut?

