

7. Three consecutive even numbers are such that the sum of four times the smallest and twice the largest exceeds three times the second by 2006.

What is the sum of the digits of the smallest number?

- A 8 B 11 C 14 D 17 E 20

8. I have a ten volume collection of mathematical puzzles. Each volume contains the same number of puzzles and the puzzles are numbered consecutively throughout (so, for example, the number of the first puzzle in volume 2 is one more than that of the last puzzle in volume 1). Whilst browsing one night, I was particularly intrigued by puzzle number 351 in volume 5 and puzzle number 689 in volume 8.

How many puzzles are there in each volume?

- A 70 B 71 C 85 D 87 E more information needed

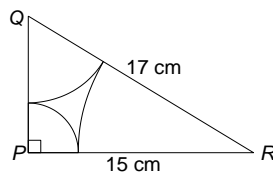
9. Five peaches, three oranges and two melons cost £3.18. Four peaches, eight oranges and three melons cost £4.49.

How much more expensive is a peach than an orange?

- A 8p B 7p C 6p D 5p E more information needed

10. In triangle PQR , angle $P = 90^\circ$, $PR = 15$ cm and $QR = 17$ cm. Circular arcs are drawn with centres at P , Q and R , and each arc touches the other two arcs.

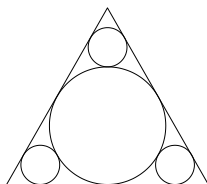
What is the radius of the arc with centre R ?



- A 10 cm B 10.5 cm C 11 cm D 11.5 cm E 12 cm

11. A circle is inscribed in an equilateral triangle. Small circles are then inscribed in each corner as shown.

What is the ratio of the area of a small circle to that of the large circle?



- A 1 : 3 B 1 : 4.5 C 1 : $3\sqrt{3}$ D 1 : 6 E 1 : 9

12. A tennis club has n left-handed players and $2n$ right-handed players, but in total there are fewer than 20 players. At last summer's tournament, in which every player in the club played every other player exactly once, no matches were drawn and the ratio of the number of matches won by left-handed players to the number of matches won by right-handed players was 3 : 4.

What is the value of n ?

- A 3 B 4 C 5 D 6 E more information needed