

Money and divisibility (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. On holiday last year Phil Atterlist bought ten postcards for 10p each and ten second class stamps at 19p each.
How much change did Phil get from £10?
A 10p B £7.10 C £8 D £8.10 E £9.00

2. Which of the following numbers is exactly divisible by 7?
A 104 B 106 C 108 D 110 E 112

3. On a journey a certain weight of luggage is carried free, but there is a charge of £10 per kilogram for any additional luggage above this weight. Laa-laa's luggage, which weighs a total of 50kg, is overweight and she is charged £150.
If Po's luggage weighs a total of 30kg, what will she have to pay?
A £0 B £30 C £50 D £90 E £100

4. Lollipops cost 12p each, but I get 3 for 30p. What is the maximum number of lollipops I can buy if I have £2 to spend?
A 16 B 17 C 18 D 19 E 20

5. When Harry bought his train ticket he received £2.50 in change. He noticed that for each coin in his change there was exactly one other coin of the same value.
What was the coin of smallest value in Harry's change?
A 2p B 5p C 10p D 20p E 50p

6. The first and third digits of the five-digit number $d6d41$ are the same.
If the number is exactly divisible by 9, what is the sum of its five digits?
A 18 B 23 C 25 D 27 E 30

7. My bus fare is 44p. If the driver can give me change, what is the smallest number of coins which must change hands when I pay this fare?

A 2 B 3 C 4 D 5 E 6

8. In California, a bottle of orange juice costs \$3, but when you return the bottle you get \$2 back.

What is the largest number of bottles of juice you can buy if you start with \$10?

A 3 B 6 C 8 D 9 E 10

9. The 8-digit number 1234*678 is a multiple of 11. Which digit is represented by * ?

A 1 B 3 C 5 D 7 E 9

10. The six cards shown display the number 632579. One “turn” consists of exchanging the positions of two adjacent cards so, for instance, after one “turn” the cards could show 632759.

Starting from the original 632579, what is the least number of “turns” required so that the cards display a number which is divisible by 4?



A 2 B 3 C 4 D 5 E 6

11. Two builders, Bob and Geri, buy bricks at the same price. Bob sells 10 for £6 and Geri sells 12 for £7.

Supposing they sell equal numbers of bricks, what number has each sold when Bob has gained £4 more than Geri?

A 42 B 60 C 72 D 120 E 240