

Miscellaneous Questions on Number Work (KS2KS3KS4).

Non-Calculator with answers. Part 2.

Name: _____

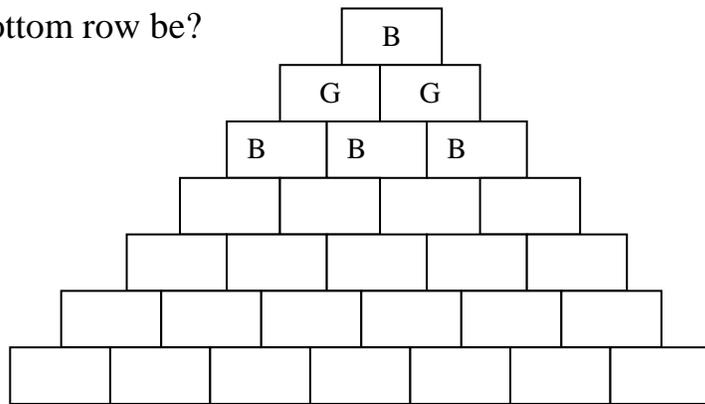
1. Kabir's train was scheduled to leave at 16.43. However, it started six minutes late, and the journey took 42 minutes.

At what time did I arrive?

2. What is a half of (a) 99 (b) 999 (c) 9999 (d) 999999

3. Jane is making a coloured tower as shown. She has 28 small cubes, 9 brown (B), 10 yellow (Y) and 9 green (G). Each row is of one colour, and no two rows which are next to each other are the same colour. The top three rows are coloured as indicated.

What colour must the bottom row be?



4. What is the remainder when each of the following numbers is divided by 5?
(a) 99 (b) 91 (c) 92 (d) 95 (e) 123456 (f) 987654321

5. **Write down** the answer to this “sum”

$$6 \times 18 + 5 \times 18 + 4 \times 18 + 3 \times 18 + 2 \times 18$$

6. What is the value of $\frac{2(18+18+18)}{18+18}$?

7. What is the value of $\frac{2(18+18+18+18+18)}{2 \times 18 \times 5}$?

8. What is the value of $\frac{2(18+18+18+18+18)}{2(15+15)}$?

9. Which of the following expressions gives the largest number?

A: $1 \times 8 + 8 \times 6$ B: $1 + 8 + 8 + 6$ C: $1 \times 8 + 8 + 6$

D: $1 + 8 \times 8 + 6$ E: $1 + 8 + 8 \times 6$

10. Which of these numbers is **not** a multiple of 3?

A 51 B 4510 C 345612 D 45396 E 65874

11. The 6-digit number $4a87a5$ is divisible by 3.

What are the possible values of a ?

12. A four-digit number $68ac$ is exactly divisible by three, by four, and by five, what is the sum of the digits a and c ?

13. A five-digit number $6m71n$ is exactly divisible by three, by four, and by five, what is the sum of the digits m and n ?

14. Which of these fractions is the smallest?

A $\frac{6}{13}$ B $\frac{5}{8}$ C $\frac{13}{20}$ D $\frac{11}{19}$ E $\frac{7}{11}$

15. (a) What is the remainder when 77777710 is divided by 7?

(b) What is the remainder when 7147147143 is divided by 7?

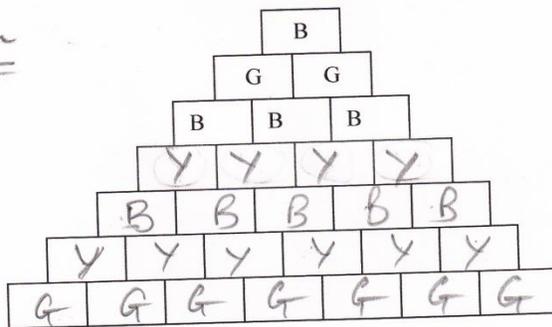
ANSWERS/SOLUTIONS (solutions not unique)

① Train leaves at 16.49
 Train arrives at 17.31

$$49 + 42 = 91 \text{ minutes} \\ = 1 \text{h } 31 \text{ mins}$$

- ② (a) $100 \div 2 = 50$, $50 - 0.5 = \underline{49.5}$
 (b) $1000 \div 2 = 500$, $500 - 0.5 = \underline{499.5}$
 (c) $10000 \div 2 = 5000$, $5000 - 0.5 = \underline{4999.5}$
 (d) $1000000 \div 2 = 500000$, $500000 \div 2 = \underline{499999.5}$

③ Green



④ If the units digit is less than 5, that's the remainder. If ≥ 5 subtract 5 to get the remainder.

(a) 4 (b) 1 (c) 2 (d) 0 (e) 1 (f) 1

⑤ There are 20 lots of 18
 $= 2 \times 10 \times 18 = \underline{360}$

⑥ $\frac{2 \times 3 \times 18}{2 \times 18} = \underline{3}$ ⑦ $\frac{2 \times 5 \times 18}{2 \times 18 \times 5} = \underline{1}$

8) $\frac{2 \times 5 \times 18}{2 \times 30} = \frac{180}{60} = 3$ OR $\frac{2 \times 5 \times 18}{2 \times 2 \times 15} = \frac{9}{3} = 3$

9) D (BODMAS)

10) B sum of digits not divisible by 3.

11) 4a87a5 $4+8+7+5=24$

a = 0, 3, 6, 9

12) 68ac

$6+8=14$

a = 4
c = 0

Sum = 4

c must be a 5 or 0 for divisibility by 5
sum of digits must be a multiple of 3 for divisibility by 3.

$\frac{1710}{4} = 6840$ $6+8+4+0=18$

13) 6m71n
 $6+7+1=14$

m = 4
n = 0 Sum = 4

14) A nearest to 0.5 ($\frac{1}{2}$)

15) (a) we only need to consider the 10 (last 2 digits)
all 7s are divisible by 7.
remainder = 3

(b) Remainder = 3

714714714 is exactly divisible by 7.

I hope you find this useful. If you want more of these type of questions, please leave a comment. If you find any errors, please let me know. Thank you.