

# Answer key

1. Find the sum of the next two terms in the sequence: 167, 168, 171, 176, 183... 192 203
2. I have a pair of red socks, blue socks, green socks, white socks, polka dotted socks, fluffy socks, and black socks in my drawer. Unfortunately, today, I can't tell the difference between any of them. How many socks do I need to take out of my drawer to guarantee I've gotten at least one pair of socks?

Answer 1: 395

Answer 2: 8

3. Put these fractions in increasing order:  $\frac{2}{3}, \frac{3}{5}, \frac{8}{13}, \frac{5}{8}$   $0.\overline{6}, 0.6, 0.615, 0.625$
4. Using only addition, subtraction, multiplication, division, and parentheses, use 1, 2, 3, and 4 each exactly once to get 15.

Answer 3:  $\frac{3}{5}, \frac{8}{13}, \frac{5}{8}, \frac{2}{3}$

Answer 4:  $(4-1)(2+3)$  or  $(4-1) \times (2+3)$

5. A two-digit number is 9 times the sum of its digits. A three-digit number is 46 times the sum of its digits. What is the minimum sum of the two numbers?  $6a = 4b + 5c$  81 & 230
6. Two trains of equal length are travelling on parallel tracks. Train A is going 5mph faster than Train B, and is behind Train B. If Train A takes 10 minutes to pass Train B, from the moment it first reaches it to the moment it is completely ahead of B, how long is Train A?

Answer 5: 311

Answer 6:  $\frac{5}{6}$  miles