MATH / PROBLEM SOLVING · Y1–Y6

# Logic Puzzles

15 puzzles — three levels

## Level 1 — Beginner puzzles (Y1–Y2)

1. Ahmed, Bella, and Carlos each have a pet. Ahmed has a cat. Carlos doesn't have a dog. What pet does Bella have? (Answer: dog — so Carlos has a fish)

2. There are 5 birds on a wire. 2 fly away. Then 3 more land. How many birds are on the wire? (Answer: 6)

3. On Monday I read 3 pages. On Tuesday I read twice as many as Monday. On Wednesday I read the same as Tuesday. How many pages total? (Answer: 3+6+6 = 15)

4. I am thinking of a number. It is bigger than 5. It is smaller than 9. It is not 7. What could it be? (Answer: 6 or 8)

5. A box has red, blue, and green balls. I pull out 2 red and 1 blue. Now there are 4 balls left. How many were there to start? (Answer: 7)

## Level 2 — Intermediate puzzles (Y3–Y4)

1. A farmer has hens and rabbits. She counts 20 heads and 56 legs. How many of each? (Answer: 8 hens, 12 rabbits — H+R=20, 2H+4R=56)

2. What is the next number: 3, 6, 12, 24, ___? (Answer: 48 — doubles each time)

3. I have coins totalling 47p with no 1p coins. List three different combinations. (e.g. 20+20+5+2p, 20+10+10+5+2p...)

4. In a race: Emma finishes before Lila. Zara finishes after Emma but before Lila. Marco finishes last. What is the order? (Answer: Emma, Zara, Lila, Marco — re-read clue 2 carefully)

5. A library shelf has 8 books. Tom takes 3. Sara returns 5. Then Tom puts 2 back. How many books are on the shelf? (Answer: 8–3+5+2=12)

## Level 3 — Harder puzzles (Y5–Y6)

1. A snail starts at the bottom of a 10m wall. Each day it climbs 3m. Each night it slides back 2m. How many days to reach the top? (Answer: 8 days)

2. How many 3-digit palindrome numbers exist? (Answer: 90 — first digit 1–9, middle digit 0–9, last digit = first)

3. If all Bloops are Razzles and all Razzles are Lazzles, are all Bloops definitely Lazzles? Explain. (Answer: yes — transitivity)

4. How many months have 28 days? (Answer: all 12 — every month has at least 28)

5. I multiply a number by itself and get a 4-digit result. The number × 3 gives a 3-digit result. Find all possible numbers. (32–33 satisfy both: $32^2=1024$, $32\times3=96$; $33^2=1089$, $33\times3=99$)