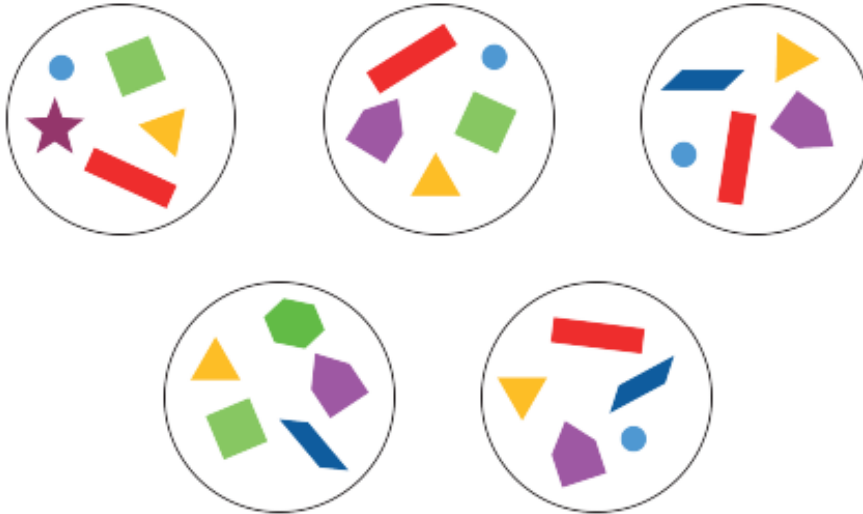## Maths Challenges Years 3 and 4 – Resource 2

1. Which shape appears in all the diagrams?

A triangle   **B** square   **C** pentagon   **D** hexagon   **E** star

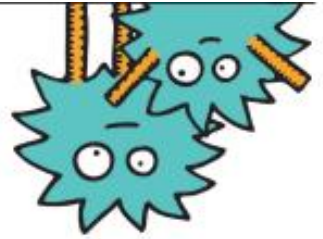---

2. How many even numbers are there between 27 and 43?

A 5   **B** 6   **C** 7   **D** 8   **E** 15

---

3. What is the smallest number that has a remainder of 1 when divided by 2, 3 or 4?

A 5   **B** 7   **C** 11   **D** 13   **E** 25

4. A manager of a football team, Milo Mastery, needs to choose a new kit.

There are 3 colours of shirt. Purple, red and yellow.

There are 2 colours for shorts. Blue and black.

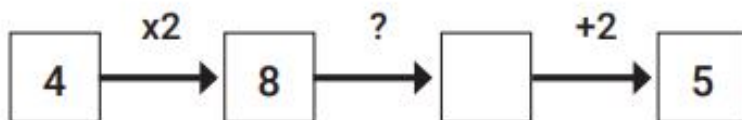How many different combinations of shirts and shorts can he make?

| **A** 2 | **B** 3 | **C** 4 | **D** 5 | **E** 6 |

5. A pizza is divided into equal slices.

How many slices have been taken?

| **A** 4 | **B** 3 | **C** 5 | **D** 6 | **E** 7 |

6. What should replace the question mark to make the calculation correct?

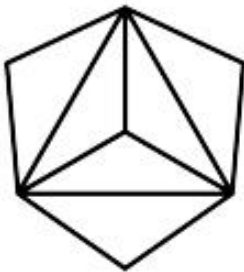4 →(×2)→ 8 →(?)→ [ ] →(+2)→ 5

| **A** ×1 | **B** -1 | **C** -2 | **D** -3 | **E** -5 |

7. A two-digit number is less than 50.

The sum of the digits is 12 and the difference between them is 4.

What is the number?

A 15   **B** 26   **C** 39   **D** 48   **E** 84

---

8. How many triangles are in the diagram?

A 5   **B** 7   **C** 11   **D** 13   **E** 25

---

9. Farhat, Jess and Tom have 18 apples between them.

Farhat has half the number of apples that Tom has.

Jess has three times the number of apples that Tom has.

How many apples does Tom have?

A 2   **B** 3   **C** 4   **D** 5   **E** 6

10. DanDan Double likes to multiply whole numbers by two.
He realised that his answers are:

A always odd **B** always even **C** sometimes odd

D sometimes even **E** always less than 100

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11. Pencils can be bought in packs of 8.
There are 28 pupils in class.
How many packs must the teacher buy to be sure that
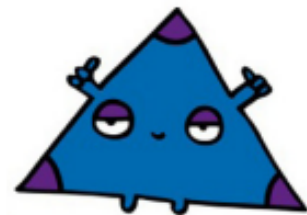everyone gets a pencil of their own?

A 2 **B** 3 **C** 4 **D** 5 **E** 6

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12. In the calculations below, which number is hidden by the ▲ ?

$3 + ■ = 8$
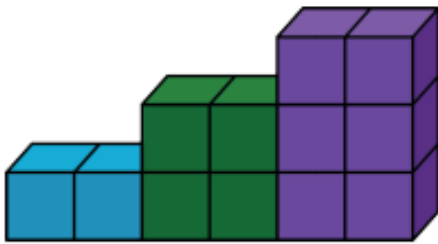
$■ + ▲ = 14$

A 6 **B** 7 **C** 8 **D** 9 **E** 10

13. Tan is knitting a scarf in a week.

At the end of Monday his scarf measures 68cm.

He knits another 5cm every day.

How long is it at the end of Friday?

A 72cm   **B** 73cm   **C** 78cm   **D** 83cm   **E** 88cm

---

14. Maya Makealot can build this set of 3 stairs with 12 blocks.

How many blocks will she need to build a set of 6 stairs?

A 42   **B** 30   **C** 36   **D** 21   **E** 52

---

15. Amanda has 10 coins in her purse.

They are 2p and 5p coins.

The coins make 32p in total.

How many 5p coins are there in Amanda's purse?

A 3   **B** 4   **C** 5   **D** 6   **E** 7

16. Bethany's water bottle holds 150ml when it is three quarters full.

How much does it hold when it is one quarter full?

A 15 ml   **B** 50ml   **C** 200ml   **D** 450ml   **E** 600ml

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17. The clock in the school staffroom is always 5 minutes slow.
However, Mr. Punctual's watch is always 8 minutes fast.
The staffroom clock is showing 11.30am.
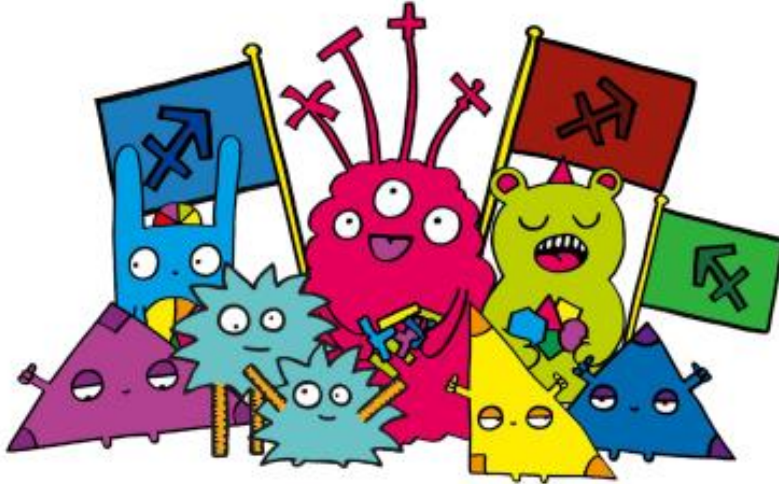What time is shown on Mr. Punctual's watch?

A 11.17am   **B** 11.27am   **C** 11.33am   **D** 11.35am   **E** 11.43am

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18. There are 9 cones along a fun run course.
The first one marks the start of the race and the last one is at the finish line.
The distance between each cone is 7 metres.
How long is the fun run?

A 56 metres   **B** 72 metres   **C** 54 metres   **D** 49 metres   **E** 63 metres

19. On the planet Numeros, the natives have a special sort of mathematics using the symbol ✗↗

$2 ✗↗ 3$ means add 2 and 3 and then add on the product of 2 and 3

In this example $2 ✗↗ 3$ would equal 11.

What is $5 ✗↗ 6$?

A 11   **B** 19   **C** 30   **D** 41   **E** 330

---

20. In the diagram, a square is divided into 9 equal squares.

What fraction of the big square is shaded?

A $\frac{1}{6}$ **B** $\frac{1}{4}$ **C** $\frac{1}{3}$ **D** $\frac{1}{2}$ **E** $\frac{2}{9}$