Primary 2

1. Fill in the blanks in the number patttern below.

   4, ?, 12, 19, 28, 39, 52, ?

   The difference between each pair of term are consecutive odd numbers.
   52 – 39 = 13
   39 – 28 = 11
   28 – 19 = 9
   19 – 12 = 7
   12 – ? = 5 → The missing number is 7.
   7 – 4 = 3

   ? – 52 = 15
   52 + 15 = 67 → The missing number is 67.

2. Ahmad and Ismail have a total of 25 gold chocolate coins. Ahmad has 7 less coins than Ismail. How many coins do Ahmad and Ismail each have now?

   (25 – 7) ÷ 2 = 9 (Ahmad)
   9 + 7 = 16 (Ismail)
   Ahmad has 9 coins and Ismail has 16 coins.

3. Julia, Fred, Lucy and Peter are sitting on a row of chairs in the waiting room of a train station. Peter is sitting somewhere between Julia and Lucy. There is a chair between Julia and Fred. Julia is sitting five chairs to the right of Lucy. There are two empty chairs to the right of Fred and an empty chair to his left. If there are no chairs to the left of Lucy, how many chairs are there in the row?

   Since there are no chairs to the left of Lucy, she is on the first chair from the left. Julia is five chairs away from Lucy, that is the 6^{th} chair in the row. Since there is a chair between Fred and Julia, then Fred's seat is the 8^{th} chair. Peter is sitting between Lucy and Julia, so his chair has already been accounted for. Since there are two empty chairs to the right of Fred, he is sitting two chairs from the end of the row. Hence, there are a total of 10 chairs in the row.

4. How many puppies are there if there are 24 more legs than tails among them?

   1 puppy → 3 more legs than tail
   2 puppies → 6 more legs than tail
   3 puppies → 9 more legs than tail
   24 ÷ 3 = 8
   There are 8 puppies.

5. Which two numbers below have a difference of 9?

   1 5 7 8 16 3 11

   The two numbers are _____ and _____.

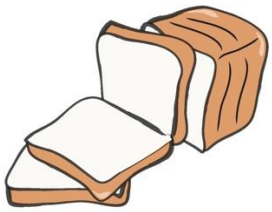
   The two numbers are 7 and 16.

6. Jan goes to school at 6.30 a.m. every morning. She comes home after the minute hand of the clock has travelled six and a half times around the clock face from the time she left for school. At what time does she come home every day?

   For the minute hand to travel six and a half times around the clock face is equivalent to six and a half hours. Jean comes home at 1 p.m. every day.

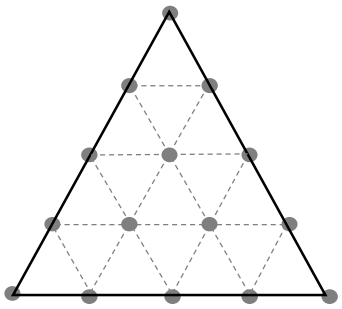
7. Mother baked a loaf of bread. She cut it into 15 equal slices. How many times did she cut the loaf of bread?

   The loaf of bread was cut 14 times.



8. Draw along the dotted lines to show how you can divide the figure given into 4 equal parts of the same shape.

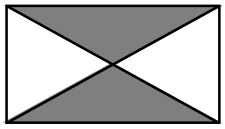
   Ans:

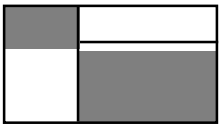


9. Tania, Susan, John and Gilbert were told to shade $\frac{1}{2}$ of a rectangle.

Which of them did not shade $\frac{1}{2}$ of a rectangle correctly?

Tania 

Susan 

John 

Gilbert 

John did not shade $\frac{1}{2}$ of the rectangle.

10. How many different 3-digit even numbers can be formed with the digits 5, 0, 3, 4?

Possible 3-digit even numbers: 304, 340, 350, 354, 430, 450, 504, 530, 534, 540
There are 10 possible 3-digit even numbers.

11. What is the smallest number that can be filled into the blank in the statement below?

(21 + ☐) is more than (46 – 11).

46 – 11 + 1 – 21 = 15
The smallest possible number is 15.

12. Robert is packing some apples into 5 separate boxes. He puts a different number of apples into each of the boxes. The box with the least number of apples has 1 apple in it, while the box with the most number of apples has 10 apples in it. What is the largest possible number of apples that Robert has in total?

The largest number of apples in the remaining three boxes would be 9, 8 and 7.
10 + 9 + 8 + 7 +1 = 35
The largest possible number of apples that Robert has is 35.

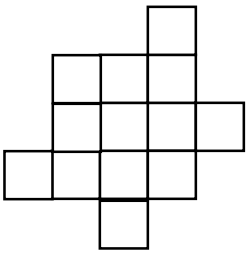
13. Two girls are each less than 9 years old. They are not of the same age. The sum of their ages is 14 years. One girl is older than 6 years. How old are the two girls?

They are _____ years old and _____ years old.

Since both girls are less than 9 years old and one of them is more than 6 years old, one of the girls is either 7 or 8 years old. The other girls has to be 6 years old, as the sum of both their ages is 14 and they are not the same age.

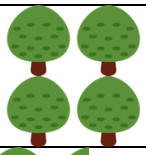
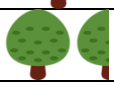
Hence, the girls are 6 and 8 years old respectively.

14. How many squares are there altogether in the figure on the right?



There are 18 squares.

15. Study the graph below.

Rain Trees	
Angsana Trees	

If the graph represents 40 Rain Trees and 15 Angsana Trees, how many trees does each  represent?

40 ÷ 4 = 10
Each symbol represents 10 trees.

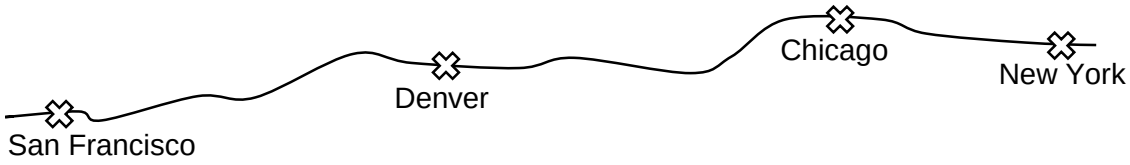
16. The table below shows a TV programme guide.

Time	Programme
8:45 am	Cartoons
9:35 am	Sports
10:10 am	News

How much longer was the Cartoons programme than the Sports programme?

9:35 – 8:45 = 50
10:10 – 9:35 = 35
50 – 35 = 15
The cartoons are 15 minutes longer than the sports programme.

17. Dean and Sal are planning to drive from New York to San Francisco. The figure below (not drawn to scale) is taken from a map and shows the way they intend to take. The distance between New York and Denver on the map is 18 cm, while the distance between Chicago and San Francisco on the map is 21 cm. If the distance between Chicago and Denver on the map is 10 cm, what is the distance between New York and San Francisco on the map?



18 – 10 + 21 = 29
The distance between New York and San Francisco on the map is 29 cm.

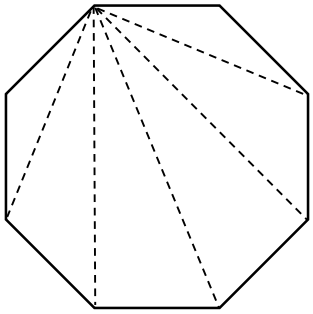
18. $\frac{1}{6} + \frac{3}{2} = \square + \frac{2}{3}$

$\frac{1}{6} + \frac{3}{2} - \frac{2}{3} = 1$

The missing number is 1 or $\frac{6}{6}$

19. The 8-sided shape shown below has five diagonal dotted-lines coming out of one corner and touching 5 of the corners of the shape. In this way, the shape is divided into a maximum of 6 triangles. For a shape with 32 sides, how many diagonal lines can be drawn in the same way from one corner to form the maximum number of triangles?

32 – 3 = 29
29 lines can be drawn from one corner.



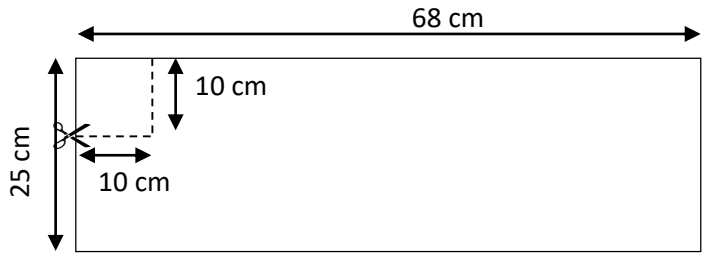
20. A Sports Competition is held every 4 years and an Arts Festival is held every 3 years. If both the Sports Competition and the Arts Festival were held in the year 2009, when will they be held in the same year again?

The number of years until both festivals coincide with each other again is 12, which is the least common multiple of 3 and 4.
2009 + 12 = 2021
Both festivals will be held in the year 2021.

21. In the table below, five letters have already been filled for you. Fill in the rest of the blanks with the letters A, B, C and D such that there is only one of each letter in each row, each column and each of the longest diagonal.

A	C	D	B
B	D	C	A
C	A	B	D
D	B	A	C

22. Shelley has a rectangle piece of paper 68 cm long and 25 cm wide. She wants to cut the paper into small squares of sides 10 cm. How many squares can she get?



The rectangle cannot be equally cut into squares of 10cm by 10cm. There can only be 6 squares along the length of the rectangle and 2 squares along the width of the rectangle.
6 × 2 = 12
She can cut a total of 12 squares from the rectangle.

23. A birthday cake is cut into 6 small slices and 6 big slices. Each big slice is 3 times the size of each small slice. William and Samuel each eat 2 big slices. Mary and Percy have 1 small slice and 1 big slice each. What fraction of the whole cake is not eaten?

6 + (6 × 3) = 24

12 + 4 + 4 = 20

24 – 20 = 4

$\frac{4}{24} = \frac{1}{6}$ of the cake is not eaten.

24. Fill in the missing numbers such that the sum of each set of six numbers horizontally, vertically and in the longest diagonals is 65. What is the value of ○?

17	24	1	8	15
23	5	7	14	16
4	6	13	20	22
10	12	19	21	3
11	18	25	2	9

17	24	1	8	
23		7		16
	○	13	20	22
10		19	21	
	18		2	9

The value of ○ is 6.

25. Mike and Nate are playing three different games – Badminton, Tennis and Handball. At the end of each game, they write down their own scores and calculate their combined scores.

Games	Mike's score	Nate's score	Combined scores
Badminton	J	K	35
Tennis	3	L	15
Handball	10	☒	?
Total score	33	M	

In their table of scores, some of the numbers are replaced with the letters – J, K, L and M. The values of some of these letters can be worked out while the values of some cannot be worked out. The value of ☒ is not given.

If you are allowed to ask for the value of only one of the letters, which letter will let you find out the combined score for Handball?

Only the value of M is needed to find the combined score for Handball. The values of the rest of the letters can be worked out.