## Continue the patterns.





$$
\Pi H T=\| \|\|=\|
$$

$$
1+1=\|\quad 1+1=\|
$$

$$
1+1=\|11+1=\|
$$



Continue the patterns



$\nexists \neq \neq \neq \neq \neq \neq$ $\nexists \neq \neq \neq \neq \neq \neq$ $\nexists \neq \neq \neq \neq \neq$

1 Continue the pattern.

## $\bigcirc \triangle O O \triangle O \bigcirc O \triangle 0000 \triangle 00000 \triangle$

2
Colour in the balls which cannot escape.


3
Join up the ends of the thread where a bead can be lost.


4
Draw a red arrow if: This is $\rightarrow$ not more than this.
Draw a blue arrow if: This is $\longrightarrow$ not less $\rightarrow$ than this.


Page 3

Continue the patterns
0000000 0000000
 $\mathrm{O}=\mathrm{O}=\mathrm{O}=\mathrm{O}=\mathrm{O}=\mathrm{O}=\mathrm{O}$

2

| $1=1$ | $1=1$ | $I=1$ | 1 |
| :--- | :--- | :--- | :--- | :--- |
| $1=1$ | $1=1$ | $1=1$ | 1 |
| $0<1$ | $O<1$ | $O<1$ | 0 |
| $1>0$ | $1>0$ | $1>0$ | 1 |


| $2=2$ | $2=2$ | $2=2$ | 2 |
| :---: | :---: | :---: | :---: |
| $2=2$ | $2=2$ | $2=2$ | 2 |
| $2+0=2$ | $2+0=2$ | 2 |  |
| $1+1=2$ | $1+1=2$ |  |  |

1
Continue the number patterns.


2

$$
\text { Solve: } \begin{array}{rlll}
2-0 & =2 & 1-0=1 & 0-0=0 \\
2-1 & =1 & 1-1=0 & 0-1=-1 \\
2-2 & =0 & 1-2=-1 & 0-2=-2
\end{array}
$$

Make the statements true by changing the place of one stick.

Continue the pattern.


Show different ways to get from the 0 to the 2 using different colours.


2


How many degrees is $2^{\circ} \mathrm{C}$ more than $1^{\circ} \mathrm{C}$ ?

$$
2-1=1
$$

How many degrees is $2^{\circ} \mathrm{C}$ more than $0^{\circ} \mathrm{C}$ ?

$$
2-0=2
$$

How many degrees is $2^{\circ} \mathrm{C}$ more than $-1^{\circ} \mathrm{C}$ ?

$$
2-(-1)=3
$$

How many degrees is $0^{\circ} \mathrm{C}$ more than $2^{\circ} \mathrm{C}$ ?

$$
0-2=-2
$$

Fill in the missing numbers.

$$
\begin{array}{llll}
0+\boxed{2}=2 & \boxed{1}+0=1 & 0+\boxed{0}=0 & \boxed{2}-2=0 \\
1+\boxed{1}=2 & \boxed{1}+1=2 & 2-\boxed{1}=1 & \boxed{2}-1=1 \\
2+\boxed{0}=2 & & 2-\boxed{0}=2
\end{array}
$$

Continue the pattern and colour it in.

Page 6

1 Complete the drawings to match the signs.


$$
\begin{array}{|l|}
\hline 2 \\
1> \\
\hline
\end{array}
$$

$$
3=3
$$



Write in the missing numbers.


Draw dots on the balls to make the the signs correct.
Egg:

3
Mary has one more red hat than she has blue hats.
How many red and how many blue hats can she have if she has not more than three hats of either colour?

| Red (il) | 1 | 2 | 3 |  |
| :--- | :--- | :--- | :--- | :--- |
| Blue | 0 | 1 | 2 |  |

Continue the pattern.

## | 00 ||| 0000 ||||| 000000 ||||||

Write the numbers $0,1,2$ or 3 in the boxes to make the signs correct.


Page 7

$$
\begin{aligned}
& \because<\bullet>\infty \\
& \because=\cdots>\infty
\end{aligned}
$$

Fill in the missing numbers.

$$
\begin{array}{|l|l|l|l|l|l|l|l|l|l|l|}
\hline 4 & 0 & 3 & 4 & 2 & 1 & 2 & 1 & 3 & 0 & 4 \\
\hline & 4 & 1 & 0 & 2 & 3 & 2 & 3 & 1 & 4 & 0
\end{array}
$$

2 Write the numbers $0,1,2,3$ and 4 in the boxes.

$$
4>\boxed{3}>\boxed{2}>\boxed{0}
$$

3 Complete the table.

| A | 1 | 3 | 2 | 0 | 1 | 2 | 1 | 2 | 0 | 4 | 1 | 3 | 2 | 1 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| B | 2 | 1 | 2 | 1 | 3 | 1 | 1 | 2 | 3 | 0 | 3 | 1 | 0 | 2 |
| A + B | 3 | 4 | 4 | 1 | 4 | 3 | 2 | 4 | 3 | 4 | 4 | 4 | 2 | 3 |

4 Complete the table.

|  |  |  |  |  |  | E.g: |  |  |  | E.g: |  |  | E.g: |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| A | 3 | 3 | 4 | 4 | 3 | 4 | 3 | 4 | 4 | 2 | 2 | 2 | 4 | 4 |
| в | 2 | 1 | 2 | 4 | 1 | 3 | 2 | 3 | 1 | 2 | 0 | 2 | 2 | 0 |
| A - B | 1 | 2 | 2 | 0 | 2 | 1 | 1 | 1 | 3 | 0 | 2 | 0 | 2 | 4 |

Continue the patterns.

##  101001000100001000001000000

Copy out each set of numbers.
(a) $3 \quad 4 \quad 5$

| 3 | 4 | 5 | 3 | 4 | 5 | 3 | 4 | 5 |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |

(b) $5 \quad 4 \quad 3$
(d) $0 \quad 2 \quad 4$

| 5 | 4 | 3 | 5 | 4 | 3 | 5 | 4 | 3 |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |


| 0 | 2 | 4 | 0 | 2 | 4 | 0 | 2 | 4 |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |

(e) 135

| 1 | 3 | 5 | 1 | 3 | 5 | 1 | 3 | 5 |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |

2 Fill in the missing numbers.

|  | 5 | 0 | 3 | 1 | 2 | 1 | 2 | 5 | 4 | 5 | 1 |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | 5

Solve the puzzle. The same shape stands for the same number. (1, 2, 3, 4 or 5 )

$$
\begin{aligned}
& =\quad=\quad= \\
& 4+1-2
\end{aligned}
$$



1 Number these squares in increasing order of size.

Colour in the third largest square.
2
Fill in the boxes with numbers from $0,1,2,3,4$ and 5.

$$
\begin{aligned}
& 2+1 \begin{array}{r}
\text { or } 5
\end{array} \quad 4+1>\boxed{2}+\boxed{2} \\
& \quad \begin{array}{l}
\text { (or } 3+1 \\
\text { or } 4+0, \text { etc. })
\end{array}
\end{aligned}
$$

3
Fill in the missing numbers.
$4-3<34$
$42>4-2$
$1+2<2 \boxed{3}+2$
$2+1>2$
$0<35-2$
$1+31>5-2$

Put the same number of tulips into each vase.


Write the number in each vase.

Repeat the pattern.

$$
\begin{aligned}
& \text { [1 } 244560123 \\
& 0\rfloor 4680 \cdot 248 \\
& 5317531531531
\end{aligned}
$$

2 Solve the equations.
$6=1+5$
$2=6-4$
$5=5-0$
$5=2+3$
$5=6-1$
$2=3-1$
$\square+5=6$
$3=6-3$
$6-1-1=4$
$2+3=5$
$6-0=6$
$2+4-4=2$

Show different ways to pay 6 p with 5 p or 2 p or 1 p coins.
For each way draw the coins and write it as an addition.
(fp) (hp): $5+1=6$$2 \mathrm{p}: 1+1+1+1+2=6$
(2p) (2p) $2 \mathrm{p}: 2+2+2=6$
(ip) (pp) 2 p op: $1+1+2+2=6$
(ip) (ip) (pp) Pp Pp: $1+1+1+1+1+1=6$

Complete the drawings. Write additions and subtractions about them.


| $3+3=6$ |
| :--- | :--- | :--- |
| $6-3=3$ |


| $4+2$ | $=6$ |
| :--- | :--- | :--- | :--- |
| $6-2$ | $=4$ |


| 1 | +5 | $=6$ |
| :--- | :--- | :--- | :--- |
| $6-5$ | $=1$ |  |

(a) Colour in seven circles.

Colour any seven circles


Tick the third circle from the left.
What is its position from the right?

```
Sixth
```

Solve:

| $2-1=3$ | $4-1=3$ | $6-1=5$ | $7-0=7$ |
| :---: | :---: | :---: | :---: |
| $2-2=0$ | $4-3=1$ | $6-2=4$ | $7-1=6$ |
| $3-0=3$ | $5-1=4$ | $6-3=3$ | $7-2=5$ |
| $3-1=2$ | $5-3=2$ | $6-4=2$ | $7-3=4$ |
| $3-2=1$ | $5-5=0$ | $6-5=1$ | $7-4=3$ |
| $3-3=0$ | $6-0=6$ | $6-6=0$ | $7-5=2$ |
|  |  |  | $7-6=1$ |
|  |  |  | $7-7=0$ |

Write additions, subtractions and inequalities for each picture.

| $\begin{aligned} & 2: 3: \\ & \because: 3: \\ & \hline: 3: \end{aligned}$ |  |  |  | $\begin{aligned} & 3:: \\ & \because: i \end{aligned}$ |  |  |  |  |  | Sos |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 5 | + | 2 | = | 7 | 6 | + | 1 | $=$ | 7 | 3 | + | 4 | $=$ | 7 |
| 7 | - | 2 | $=$ | 5 | 7 | - | 1 | $=$ | 6 | 7 | - | 4 | $=$ | 3 |
| 2 | < | 5 |  |  | 1 | < | 6 |  |  | 4 | > | 3 |  |  |
| 2 | + | 5 | $=$ | 7 | 1 | + | 6 | $=$ | 7 | 4 | + | 3 | $=$ | 7 |
| 7 | - | 5 | $=$ | 2 | 7 | - | 6 | $=$ | 1 | 7 | - | 3 | $=$ | 4 |

1
Show the answers by drawing sticks.

$\|+\|||||=\|||||| |$


2 Continue the pattern.

$$
\begin{aligned}
& \overline{8}\rfloor=8
\end{aligned}
$$

Fill in the missing numbers.

| 8 | 1 | 0 | 5 | 4 | 7 | 2 | 5 | 4 | 6 | 3 | 2 | 6 | 7 |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | 7

Kate bought 3 cakes. Bob bought 2 cakes less than Kate.

Kate:


Bob:

(a) How many cakes did Bob buy?

(b) Write the sum.

$$
\begin{array}{|l|}
\hline 1+2=3 \\
\hline
\end{array}
$$

(c) Write a subtraction to check. | $3-2=1$ |
| :--- | :--- | :--- |

Find different results using + or - .
(a) $2 \boxed{+} 2 \square 2 \square+2=8$
(b) $4 \square$
$3 \square 1=0$
$2+2+2-2=4$
$4+3+1=8$
$2+2-2-2=0$
$4-3+1=2$
$2-2+2-2=0$
$4+3-1=6$
$2-2-2+2=0$

## 2


(a) Draw a door on the eighth house from the left.
(b) Draw a chimney on the third house from the right.
(c) Draw a window on the sixth house from the left.

Colour the same shapes in the same colours.


Betty is taller than Alan.
Cindy is taller than Betty.
Cindy is smaller than Alan.


Complete the drawing. Can this be true? $\square$
(a) Colour in nine circles.

(b) Tick the fourth circle from the right.

Colour any nine circles
What is its position from the left?
Seventh

2
Continue the pattern.
[9]-1]
$9-1=8$
$9-1=8$
$0<1<2<3<4<5<6$
$9]>8>27 \geq 6$

3
Tom has 2 stamps. He has 5 less than Jenny.
Draw the stamps.
Tom :

(a) How many stamps does Jenny have?
(b) How many stamps do they have altogether?
$2+7=9$
(c) Write a subtraction to check.
$9-7=2$

Find numbers to make each sum equal 9 .

$$
\begin{gathered}
\boxed{6}+2+1=9 \\
\text { E.g: } \boxed{2}+4+\boxed{3}=9 \\
\text { E.g: } 3+\boxed{3}+\boxed{3}=9
\end{gathered}
$$

## 1 Write additions and subtractions for:

(a) $\square$

$$
\begin{array}{ll}
2+8=10 & 8+2=10 \\
10-8 & =2
\end{array} 10-2=8=\$
$$

(b) $\bigcirc \bigcirc \bigcirc \bigcirc \bigcirc \bigcirc \bigcirc \bigcirc \bigcirc$

$$
\begin{array}{ll}
10+0=10 & 0+10=10 \\
10-0=10 & 10-10=0
\end{array}
$$

2 There are 10 pieces of fruit in a bowl, made up of apples (A) and pears (P).

| A | 10 | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 0 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| P | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
| $\mathrm{~A}+\mathrm{P}$ | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 |

Solve:

| $1+5$ | $=6$ | $6+3$ | $=9$ |
| ---: | :--- | ---: | :--- |
| $7+3$ | $=10$ | $0+9$ | $=9$ |
| $4+4$ | $=8$ | $4-5$ | $=2$ |

Fill in the missing numbers.

| $10=0+10$ | $10=8+\boxed{2}$ | $10=5+\boxed{5}$ |
| :--- | :--- | :--- |
| $10=2+\boxed{8}$ | $10=10+\boxed{0}$ | $10=7+\boxed{3}$ |
| $10=4+\boxed{6}$ | $10=1$ |  |
| $10=6+9$ | $10=3+7$ | $10=\boxed{9}+1$ |

1 Cross out those numbers which do not make the inequality true.
(a) $1+7>$$: 0,1,2,3,4,5,6,7,2,2,0$
(b) $7-6<$ $\square$ $<3+3$


2
Fill in the missing numbers. Complete the equations.

| $a$ | 5 | 6 | 8 | 3 | 4 | 9 | 7 | 10 | 5 |
| ---: | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| $b$ | 4 | 5 | 7 | 2 | 3 | 8 | 6 | 9 | 4 |
| $c$ | 2 | 3 | 5 | 0 | 1 | 6 | 4 | 7 | 2 |
| $c=b-2$ | $a=b+.1 \ldots \ldots$ | $b=a . \ldots 1 \ldots$. |  |  |  |  |  |  |  |
| $c=a-3$ | $a=c+.3 \ldots$. | $b=c .+2 \ldots$. |  |  |  |  |  |  |  |

Circle the pair of numbers which is more than the other pair.
Put the correct sign between them, showing how many more.
a) $1+2$
$<4+3$
c) $10-2=$
$5+3$
b) $7-3 \quad>\quad 8-5$
d) $6-1>$
$9-8$

4
Fill in the missing numbers.

$$
1 \xrightarrow{+6} 7 \xrightarrow{-2} \sqrt{5} \xrightarrow{-3} 2^{+6} 8 \xrightarrow{-\boxed{4}} 4
$$

Write in the missing numbers as Roman numerals.
$\mathrm{V} \xrightarrow{+1} \mathrm{VI}$
$\mathrm{V} \xrightarrow{-1} \mathrm{IV}$

$$
\text { IX } \stackrel{-1}{ } \mathrm{X} \quad \mathrm{~V} \xrightarrow{+\mathrm{V}} \mathrm{X}
$$

Write down the answers. Mark them with dots on the number line.
a)

b) 3
b) $1+2<\Delta<9-1$


2
Mark different paths along which the numbers add up to 10 .


3
Fill in the grids so that the numbers in each row and column will add up to:

| seven |  |  |  |  | eight |  |  |  |  | nine |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1 | 1 | 0 | 2 | 3 | 2 | 0 | 2 | 3 | 1 | 1 | 1 | 2 | 3 | 2 |
| 1 | 2 | 3 | 1 | 0 | 2 | 2 | 0 | 1 | 3 | 3 | 3 | 0 | 2 | 1 |
| 4 | 2 | 1 | 0 | 0 | 0 | 5 | 2 | 1 | 0 | 4 | 1 | 2 | 1 | 1 |
| 0 | 1 | 1 | 2 | 3 | 1 | 1 | 2 | 1 | 3 | 0 | 2 | 1 | 2 | 4 |
| 1 | 1 | 2 | 2 | 1 | 3 | 0 | 2 | 2 | 1 | 1 | 2 | 4 | 1 | 1 |

Each shape is worth 10 .
Colour them as shown and find them on the grid.

yellow


Page 18

Write signs between the pictures to show which takes more time. $<,>,=$

sleeping

playing

drinking

eating

winter

Kate's birthday is on the 10th August. Her mother's is on the 10th February.
a) How many months are there from Kate's birthday to her mother's? $\square$
b) How many months are there from her mother's birthday to Kate's? $\square$

3 Continue the patterns.
11 / 09 / 1999, 11 / 09 /1.999, . .1.1./0.9//1.9.99, . .1.1./0.9/1.999 $\qquad$

2nd of June, 2nd of June, 2nd of June,., 2nd of.June, .2nd.of. June.

4
Complete the sentences.

a) The shortest month has | 2 | 8 |
| :--- | :--- | days.

b) the 4th month is April

c) the | 1 | 0 |
| :--- | :--- | th month is October.

a) $4+2=6$
b) $6-3=3$
c) $7+2=9$
d) $9-5=4$
e) $0+0=0$

f) | 10 | $-9=1$ |
| :--- | :--- |

g) $9-5=4$
h) $10-6=4$
i) $8-7=1$

1 Write on each arrow what it means.


2
Which numbers would make the statements correct?
a) $6+3-4<29-7+5$
b) $9-5-1<33+1+2$
$2+7-\boxed{3}>9-5+1$
$7+2-6<19-2-3$
$5+4-3<39-6+6$
$6+3-42>9-\boxed{2}-4$
$1+8-\boxed{2}=9-3+1$
$9-2-14>1+0+1$
$8+2-6<110-6+1$
$10-\boxed{0}-3<12+5+1$

3
Make the statements correct by changing the place of one stick.
a) $\mathrm{VI}-\mathrm{IV}=\mathrm{IX}$
b) $\mathrm{X}-\mathrm{IV}=\mathrm{IV}$
c) $\mathrm{VI}+\mathrm{VI}=\mathrm{X}$

$$
\mathrm{V}+\mathrm{IV}=\mathrm{IX}
$$

$$
\mathrm{X}-\mathrm{VI}=\mathrm{IV}
$$

$$
\mathrm{VI}+\mathrm{IV}=\mathrm{X}
$$

Ferdinand the Fox has been out hunting.
He wanted to catch 6 hens.
If he caught two more than he did, he would still have two less than six.

How many hens did Ferdinand catch?

1

a) Write the missing numbers under the number line.
b) Join the sums to the corresponding points on the number line.

Compare the numbers. Write the correct signs between them. <,>, $=$

| $5<$ | 6 | 8 | $>$ | 3 | 6 | $<$ | 10 | 7 | $=$ | 7 | 4 | $<$ | 10 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| $15<$ | 16 | 18 | $>$ | 13 | 16 | $<$ | 20 | 17 | $=$ | 17 | 14 | > | 10 |
| $5<$ | 16 | 8 | $<$ | 13 | 6 | $<$ | 20 | 7 | $<$ | 17 | 14 | $<$ | 20 |
| $15>$ | 6 | 18 | > | 3 | 16 | > | 10 | 17 | $>$ | 7 | 4 | $<$ | 20 |

Write the numbers from 0 to 20 in their correct place in the table.

|  | 1-digit numbers | 2-digit numbers |
| :--- | :--- | :--- |
| Even numbers | $0,2,4,6,8$ | $10,12,14,16,18,20$ |
| Odd numbers | $1,3,5,7,9$ | $11,13,15,17,19$ |

Write additions and subtractions about the pictures.
a)

E.g:

$$
\begin{array}{|l|l|l|l|l|l|l|}
\hline 3+9 & =1 & 2 & & \\
\hline 3+7+2 & = & 1 & 2 \\
\hline
\end{array}
$$

b)

E.g:

$$
\begin{array}{|l|l|l|l|l|l|l|}
\hline 1 & 5 & - & 7 & = & 8 & \\
\hline 1 & 5 & - & 5 & - & 2 & = \\
\hline
\end{array}
$$

Page 21

Complete the additions and subtractions. Show them on the number line.
a) $7+8=15$
b)

20

2 Divide up 11 into 3 parts. Complete the table. $a+b+c=11$

| $a$ | 3 | 2 | 5 | 1 | 6 | 5 | 2 | 4 | 3 | 2 | 10 | 0 | 2 | 0 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| E.g.g: |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| $b$ | 7 | 8 | 1 | 2 | 1 | 6 | 9 | 4 | 5 | 4 | 1 | 4 | 7 | 11 |
| $c$ | 1 | 1 | 5 | 8 | 4 | 0 | 0 | 3 | 3 | 5 | 0 | 7 | 2 | 0 |

3 We buy a 6 p and a 5 p stamp. How much change are we given from 20 p ? Write out the equations.

| 6 | + | 5 | $=$ | 1 | 1 |
| :--- | :--- | :--- | :--- | :--- | :--- |$\quad$| 2 | 0 | - | 1 | 1 | $=$ | 9 |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- |

Fill in the missing numbers.
a) $\quad 11-3=8$
b) $2+9=11$

c) $5+11=$| 1 | 6 |
| :--- | :--- |

d) $11-8=3$
e) $4+7=11$

f) $20-9=$| 1 | 1 |
| :--- | :--- |

g) $11-5=6$

h) | 2 | 0 |
| ---: | ---: |
| $-11=9$ |  |

i) $20-11=9$

Find ways through the maze so that the sum of the numbers used is 11 .


Page 22

1
Fill in the missing numbers and signs.


| $8+$ | 2 |
| :---: | :---: | :---: |
| $=12$ | - |
| $4+$ | 2 |

Colour the sums as shown.

|  |  |  |  | $5+6$ |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  |  |  |  |  | 4 ${ }^{\text {+ }}$ |
|  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  | 6-5 |  |  |
| 12.1 |  |  |  | $1+10$ |  |  |  |  |


| B | odd numbers with 2 digits |
| :---: | :---: |
| Y | odd numbers with 1 digit |

Tom has 12 toy cars. He has the same number of red cars as blue cars and the rest are yellow. How many red, blue and yellow cars can he have?

| 020 | 0 | 1 | 2 | 3 | 4 | 6 |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| $0 \mathrm{R} O$ | 0 | 1 | 2 | 3 | 4 | 6 |  |
| $O \mathrm{O}$ | 12 | 10 | 8 | 6 | 4 | 0 |  |

Fill in the missing numbers and signs.


1 Alice has put her piggy banks in order so that each has 3 p more than the one before. None of the piggy banks contains more than 13p.


Write in the piggy banks how much money could be in each one.

2 Anna, Sandra and Carrie have 13 dolls altogether.
Anna has 4 dolls and Sandra has 5.
How many dolls does Carrie have?

\[

\]

Complete the table. $a+b=13 ; b=13-a ; a=13-b$

| $a$ | 0 | 3 | 10 | 12 | 5 | 8 | 13 | 2 | 4 | 7 | 1 | 6 | 9 | 11 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| $b$ | 13 | 10 | 3 | 1 | 8 | 5 | 0 | 11 | 9 | 6 | 12 | 7 | 4 | 2 |

Fill in the missing numbers.
$13=5+7+1$
$4=13-8-1$
$12=13-9+8$
$12=5+5+2$
$3=6+6-9$
$13=2+4+7$

| 1 | 3 |
| :--- | :--- |$=4+2+7 \quad 8=12+1-5$

$13=12+8-7$
$11=13-9+7$
$5=13-4-4$

| 1 | 0 |
| :--- | :--- |$=13-7+4$

5 Make this 13 -stick dog look towards the right by moving just 2 sticks.


Mickey and Minnie Mouse always store the same number of acorns.
How many acorns could they have collected? Complete the table.

| Mickey | 0 | 4 | 1 | 5 | 2 | 3 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
| :--- | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Minnie | 0 | 4 | 1 | 5 | 2 | 3 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
| Mickey + <br> Minnie | 0 | 8 | 2 | 10 | 4 | 6 | 12 | 14 | 16 | 18 | 20 | 22 | 24 |

## 2 Continue the pattern.

11 eleven, 11 . ele.ven.,. 11 .eleven, .1.1. eleven,. 11. ele.ven, .11 .eleven. . . .
12 twelve, 12 . tw.elve,. 12. .twelve, .1.2 .tw.e.lye, .1.2. tw.elve,. .12. twelve . .

13 thirteen, 13 . thirteen., .13.thirteen, .1.3. thirteen,. 13. thirteen, .13 .thirteen

14 fourteen, 14 . fourteen, .14. fourteen, . 14 .fourteen, 14 .fourteen . . . . . .

3 Complete the table. Write down the rule in different ways.

$$
\begin{array}{|l|l|l|l|l|l|l|l|l|l|l|l|l|}
\hline a+b=1 & a=1 & 4 & -b & b & 1 & 4 & - & a \\
\hline
\end{array}
$$

| $a$ | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| $b$ | 14 | 13 | 12 | 11 | 10 | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 0 |

4 There are 7 litres of water in a tank.
How much water will be in the tank if you pour 5 litres into it?

| 7 | + | 5 | $=$ | 1 | 2 |
| :--- | :--- | :--- | :--- | :--- | :--- |
| litres |  |  |  |  |  |

5 There were 8 apple trees and 6 pear trees in the garden. 5 trees died.
How many trees are left? Underline the correct equation and fill it in.

$$
8+6+5=\square 8-6+5=\square \quad 8+6-5=\square 9
$$

1
Write down what you think the answers might be.
a) $\mathrm{XII}+\mathrm{I}=$ XIII
b) $\mathrm{XII}+\mathrm{II}=\mathrm{XIV}$
c) $\mathrm{XII}+\mathrm{III}=\mathrm{XV}$
d) $\mathrm{XIII}+\mathrm{I}=\mathrm{XIV}$
e) $\mathrm{XIII}+\| I=X V$
f)
$X I V+I=X V$

2
Complete the table, if $\qquad$ $+$ $\square$ $=$ $=\Delta$

| $\triangle$ | 0 | 1 | 2 | 3 | 7 | 5 | 6 | 4 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| $\triangle$ | 0 | 1 | 2 | 3 | 7 | 5 | 6 | 4 |
| $\triangle$ | 0 | 2 | 4 | 6 | 14 | 10 | 12 | 8 |

There are 6 books on the 2nd shelf.
There are 3 more books on the 1 st shelf than on the 2 nd shelf.
How many books are on
a) the first shelf $6+3=9$
b) both shelves?

| 6 | +9 | $=$ | 5 |
| :--- | :--- | :--- | :--- | :--- |

Find ways through the pyramids so that the sum of the numbers used is 15 .
a) E.g:

b) E.g:


5
Complete the table so that


| $\square$ | 1 | 4 | 11 | 0 | 2 | 9 | 6 | 9 | 3 | 5 |
| :--- | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| $\triangle$ | 5 | 8 | 15 | 4 | 6 | 13 | 10 | 13 | 7 | 9 |

At 8 o'clock there were 9 cars in the car park. In the next hour, 6 cars arrived and 3 cars left.
How many cars were in the car park at 9 o'clock?

$$
\begin{array}{|l|l|l|l|l|l|l|l|}
\hline 9 & + & 6 & - & 3 & = & 1 & 2 \\
\hline
\end{array}
$$

1 Fill in the missing numbers.

| $6+6=12$ | $5+8=13$ | $11-3=$ | 8 |
| :---: | :---: | :---: | :---: |
| $4+7=1$1 1 | $4+8=$1 2 | $12+5=$ | 7 |
| $9+5=14$ | $9+3=122$ | $15+5=$ | 0 |
| $15-12=\square 3$ | $15-7=\square 8$ | $13-5=$ | 8 |
| $14-11=\square 3$ | $13-7=\square 6$ | $14+3=$ | 7 |
| $12-10=\square 2$ | $12-6=\square 6$ | $20-5=$ | 5 |
| $20-10=$1 0 | $13-3=1$1 0 | $20-6=$ | 4 |

Join up the pictures to the correct measure.


3 Write down during which part of the day these take place:
a) sleeping .Night.............
b) teaching . Daytime. .......
c) breakfast .Mọorṇ̣ing . . . . . . . .
d) dinner .Night. . . . . . . . . .

Complete the drawing so that the ribbon is 20 cm long.


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There is 16 p in each purse. Complete the drawings and write equations. E.g:

|  |  | (1) |  | (1) (1) (1) (1) |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | 2 | $2+$ | $+$ |  | $=$ |  |  |




|  |  |  |  | (10) |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | 6 |  |  | 0 |  |  |  |


| (2) (1) |  |  | (5) (5) ${ }_{\text {(1) }}(1)$ |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | + | 1 | 3 |  |  |  | 6 |



Which numbers can be written instead of the letters so that the inequalities are correct? Join each solution to the matching number line.

| $13+p \leq 16$ | $p: 0,1,2,3$ |
| :--- | :--- |
| $10+a<16$ | $a: 0,1,2,3,4,5$ |
| $16-r>12$ | $r: 0,1,2,3$ |
| $b+b<11$ | $b: 0,1,2,3,4,5$ |
| $s+16<20$ | $s: 0,1,2,3$ |

Mother has made 17 buns. Peter ate 5 of them, 3 less than Chris.
a) How many buns have been eaten?

| $5+$ | 3 | $=$ | 8 |  |
| :--- | :--- | :--- | :--- | :--- |
| 5 | + | 8 | $=$ | 1 |$|$| 3 |
| :--- |

b) How many buns are left?

| 1 | 7 | - | 1 | 3 | $=$ | 4 |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- |

Find ways through each maze so that the sum of the numbers used is 17 .
a) E.g:

b) E.g:

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Complete the table. Write down the rule in different ways.

$$
\begin{aligned}
& a+b=\begin{array}{l|l|l|}
\hline & 8 \\
\hline
\end{array} \\
& a=18-b \\
& b=18-a
\end{aligned}
$$

2 Continue the pattern.
XI eleven, XII twelve, . XI elelẹyẹn, XII țweḷve, XI eḷeven, X̣II tweelyẹ . . . .

XV fifteen, XVI sixteen, .X.V. fiftẹẹ̣, XYI sịxtẹẹn, XV fịfṭẹẹn, XYYI.s.ixteẹn XVII seventeen, XVIII eighteen,

XVII seventeen, XVIII eighteen, XVII seventeen, XVIII eighteen,

3
Divide up 18 into 3 numbers. $\quad a+b+c=18 \quad$ Complete the table.

| $a$ | 6 | 12 | 14 | 9 | 7 | 6 | 10 | 9 | 2 | 1 | 9 | 3 | 2 | 3 | 4 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| $b$ | 4 | 2 | 2 | 4 | 4 | 6 | 3 | 2 | 8 | 9 | 6 | 8 | 11 | 12 | 4 |
| $c$ | 8 | 4 | 2 | 5 | 7 | 6 | 5 | 7 | 8 | 8 | 3 | 7 | 5 | 3 | 10 |

Write the numbers in the correct places so that the sum of the 3 numbers on each line will be 18 .


5
Write down what you think the answers might be.
a) $\mathrm{IV}+\mathrm{V}=\mathrm{IX}$
b) $X+V+I V=X I X$
c) $\mathrm{XV}+\mathrm{III}=\mathrm{XVIII}$
c) $\mathrm{XVI}+\mathrm{III}=\mathrm{XIX}$
d) $X V I I+I=X V I I I$
e) $X V I I+I I=X I X$

Continue the pattern.
$X+X=X X$, ten + ten $=$ twenty; $X+X .=X X$, ten + .ten $=$.twenty, $\ldots \ldots$

XIII thirteen, XVIII eighteen; XIII thirteen, XVIII. .eighteen, XIIII thirteen.,
XVIII .eighteen, XIII thirteen, XVIII.eighteen, XIII thirteen, XVIII eighteen
XIX nineteen, XX twenty; XIX nineteen, XX.tw.enty,,XIX. nineteen,. . . . .
XX twenty, XIX ninetẹẹ, XX twenty, XIX ninețeen. XX .twenty. . . . . . . .

2 Divide up the shapes into 4 similar parts so that the sum of the numbers in each part is 20 . Colour each part in a different colour.
a)

b)


3 There were less than 20 cakes on a plate.
We ate 4 cakes and there were more than 11 cakes left.
How many cakes (c) could have been on the plate at the beginning?

$$
c: \quad 16,17,18,19
$$

Eve has $£ 4$ less than May. How much money could they each have?

| E | 3 | 6 | 8 | 15 | 5 | 11 | 16 | 10 | 16 |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| M | 7 | 10 | 12 | 19 | 9 | 15 | 20 | 14 | 20 |

Move one stick to make each equation correct.
a) $\mathrm{XVII}+\mathrm{V}=\mathrm{XX}$
b) $I X+I X=X X$
$X V I+I V=X X$
$I X+X I=X X$

1
Join the equations to the correct pictures. Fill in the missing numbers.


2 Two ants are 13 cm away from each other.


One walks 5 cm and one walks 6 cm towards the other.
How far away from each other are they now?


3 Fill in the missing numbers.


4 Mary had 18 sweets.
She gave 6 sweets to Kate and 5 to Jim.
Cross out the sweets she gave away.


How many sweets does Mary have left?

I thought of a number. I added the same number to it, then added 2.
I ended up with 16 . What was the number I first thought of?

We want to make the ribbon 20 cm long. Draw a line to show the cut.
Cross out the piece of ribbon not needed.


2
The pictures have been folded in half in different ways.
Draw the picture you would see on one half of the folded paper.
a)


b)


c)


d)



Complete the drawings of the robots so that the other half is a mirror image of the shape shown.
a)

b)

c)

d)


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1 Kate's birthday is the 10th of August. Mother's is the 10th of February. How many months are there from:
a) Mother's birthday to Kate's birthday?
b) Kate's birthday to Mother's birthday?


2 Mark's birthday is on the 15th May, Andrew's is on the 2nd of May and Sue's is on the 30th May. How many days are there between:
a) Andrew's and Mark's birthdays?

| 1 | 2 |
| :--- | :--- |
| days |  |
| 1 | 4 |
| days |  |
| 2 | 7 |

3 Complete the table. The rule is: $a+a+b=c$

| $a$ | 5 | 4 | 3 | 8 | 7 | 1 | 9 | 6 | 0 | 10 | 2 |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| $b$ | 5 | 2 | 4 | 4 | 2 | 8 | 2 | 8 | 20 | 0 | 11 |  |
| $c$ | 15 | 10 | 10 | 20 | 16 | 10 | 20 | 20 | 20 | 20 | 15 |  |

4 Write down what you think the next number is.
a) $1,4,7,10,13,1.6$.
b) $20,17,14,11,8$.
c) $20,15,10,5,0$. .
d) $1,2,4,7,11,16$.

What do you think the rules are? Continue the sequences.
a) $18,15,16,13,14,11, .12, .9,10,7,8,5,6,3,4,4,1, .2 \ldots$

Subtract 3, add 1
b) $20,18,16,17,15,13,14,12,10,11,9,7, ., 8,6,4,4,5 \ldots$ Subtract 3, subtract 2, add 1

6 I thought of a number. I added 8 to it, then took away 2 and got 13 .
What was the number I first thought of?

| 1 | 3 | + | 2 | - | 8 | $=7$ |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- |

1 Colour the small rectangles according to their answers.

| $5+6$ | $3+8$ | 20-1 | 14-3 | 17-2 | 18-1 |
| :---: | :---: | :---: | :---: | :---: | :---: |
| $8+5$ |  |  |  |  | $7+6$ |
| $3+10$ |  |  |  |  | $10+7$ |
| $10+5$ | $3+$ |  |  | $10+9$ | $12+5$ |
|  |  |  |  |  |  |

Red: 1-digit odd numbers
Blue: 1-digit even numbers

Yellow: 2-digit odd numbers
Green: 2-digit even numbers

2 I thought of a number. I added the same number to it and ended up with 18. What was the number I first thought of? 9
Write an equation about what I have done.

| $9+9=18$ |
| :---: | :--- | :--- | :--- |

3

$4+13=$| 1 | 7 |
| :--- | :--- |


| 1 | 2 |
| :--- | :--- |


$6+14=$| 2 | 0 |
| :--- | :--- |

$10-5=5$

$8+10=$| 1 | 8 |
| :--- | :--- |

$12-3=9$

| 1 | 4 |
| :--- | :--- |

$13+7=20$

$4+11=$| 1 | 5 |
| :--- | :--- |

$12-6=6$

| 2 | 0 |
| :--- | :--- |


$18-$| 1 | 2 |
| :--- | :--- |

$11-5=6$
$12+2=14$
0

4 We can see only one half of the dominoes. The dominoes are symmetrical. Draw the other side to match.


5
We had a cake with 12 slices. We ate one slice more than half. Colour in the slices which are left.


1 Fill in the missing numbers.


For the | 1 | 3 |
| :--- | :--- |

a) the 4th house from the left is the | 1 | 0 |
| :--- | :--- |
| th house from the right. |  |

b) the | 1 | 3 |
| :--- | :--- | th house from the left is the 1 st house from the right.

c) the 7th house from the left is the | 7 | th house from the right |
| :--- | :--- |

2 Nora is collecting postcards.
She gave 5 of the 13 she had to Jenny but she got another 6 cards from Mark.


Continue the drawing.
How many picture cards does
Nora have now?

| 1 | 3 | - | 5 | + | 6 | $=$ | 4 |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |

3 Which number is:
a) 1 more than the next number smaller than 12

b) 3 less than the next number smaller than 11
c) 2 more than the next even number bigger than 16
d) 2 less than the next odd number smaller than 18 ?

4 I thought of a number. I added 8 to it then I took away 6 and got 5 .
What is the number I first thought of?

$$
\begin{array}{|l|l|l|l|l|l|l|}
\hline 5 & + & 6 & - & 8 & = & 3 \\
\hline
\end{array}
$$

5 List the numbers which are:
a) even and smaller than $12.0,2,4,6,8,10 \ldots \ldots \ldots \ldots \ldots$.
b) even, smaller than 20 and greater than $8.10,12,14,16,18 \ldots \ldots \ldots$
c) even, smaller than 12 and greater than 8.10.

