Year 3 Holiday Reinforcement Mathematics Paper- July, August 2018
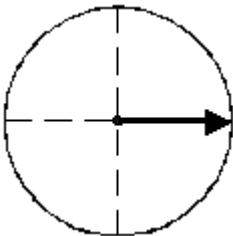
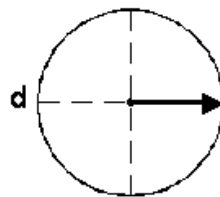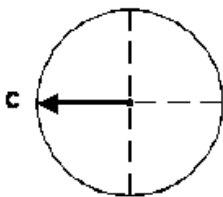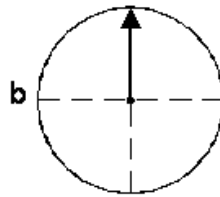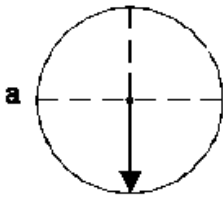**Name: _____**   **Year 3 _____**
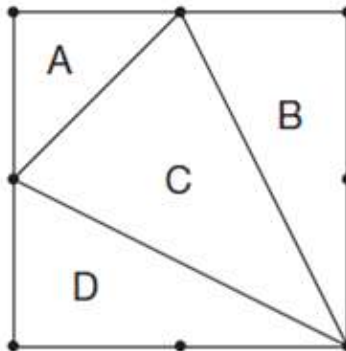
Week 1 and 2

1   What will this arrow look like after a **three quarter turn?**

Tick (✔) the drawing a,b,c or d which shows this.

2 Mark the right angles .

3 This shape is **three-quarters of a circle**. How many degrees is **angle x?**
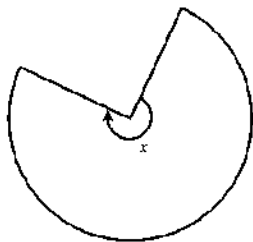
4 On the grid below, use a ruler to draw a **pentagon** that has **three right angles**.
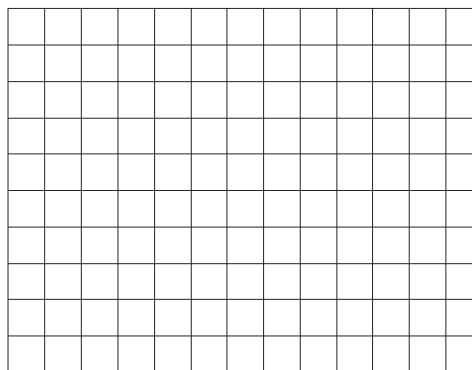
5 This triangle has two equal sides.

Not drawn accurately

What name is given to this type of triangle? -----------------------------

6 a) Mark the obtuse angle (blue) and acute angle (red)

b) Four sided closed figure is known as _____

7i) Look at the figures below. Which figures have exactly 5 faces?
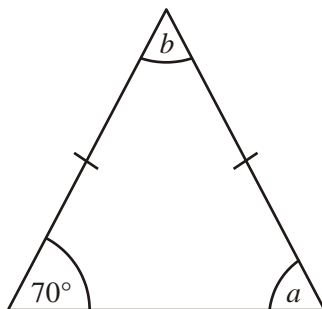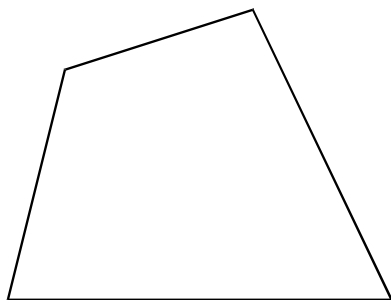

Triangular prism

Rectangular prism

Square-based pyramid
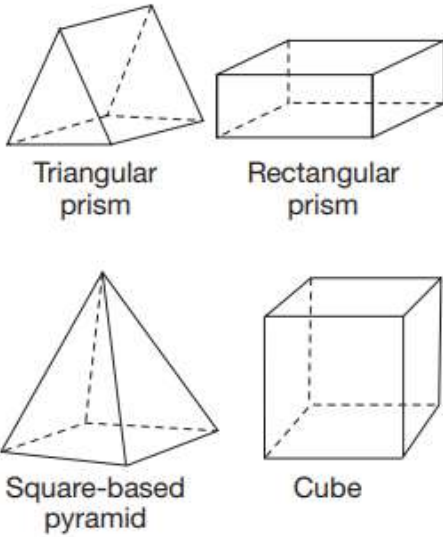
Cube

a) triangular prism and cube
b) triangular prism and square-based pyramid

b)   rectangular prism and cube
d) rectangular prism and square-based pyramid
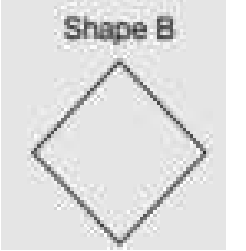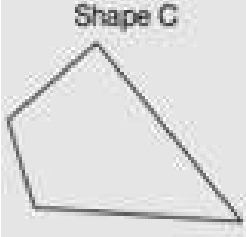
ii)   Mike has a 3-D figure. It has 5 faces and 5 vertices. Which figure does Mike have?

a) triangular prism

b) rectangular prism

c) square-based pyramid

d) triangular-based pyramid

8) Join dots on the grid to make a quadrilateral that has 3 acute angles.

9 The table below shows 3 shapes and information about their angles.

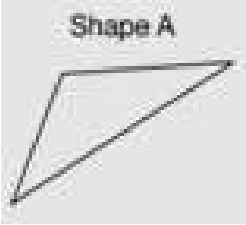| Shape	Number of right angles	Number of angles larger than a right angle	Number of angles smaller than a right angle
Shape A			
Shape B			
Shape C			
Shape D	2	1	1

Complete the table for Shape B and Shape C. Which of the following shapes could be Shape D?

Circle one and justify your answer.

----

10 Count the number of right angles from the shapes given.
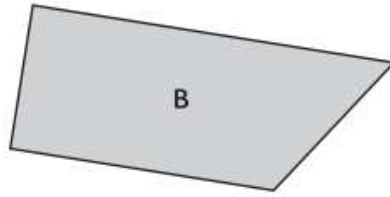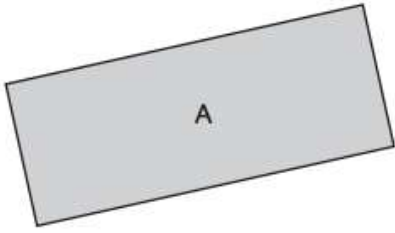
A = [　　　] right angles

B = [　　　] right angles

11

This box shape, or cuboid, is built with small red bricks like this. How many of the small bricks are needed?

12 Here are 3 pairs of lines. Put a tick under any set that are parallel

☐　　　☐　　　☐
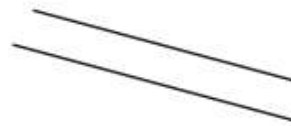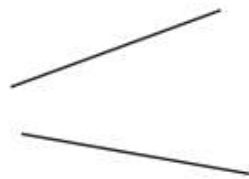
13 Kayla is lying on her towel at the beach. The towel is a rectangle that is 3 feet wide and 6 feet long. Use the key below to answer the question.

Key

= 1 foot
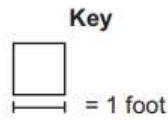
Which figure models the size of Kayla's towel?

A.

C.

B.

D.
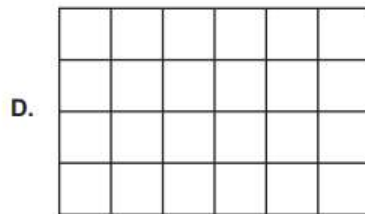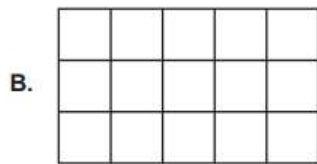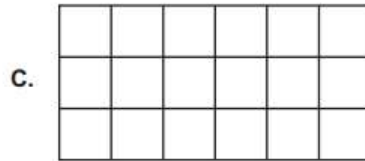
14 The perimeter of a rectangle measures 26 in. Find the other side length, if one side

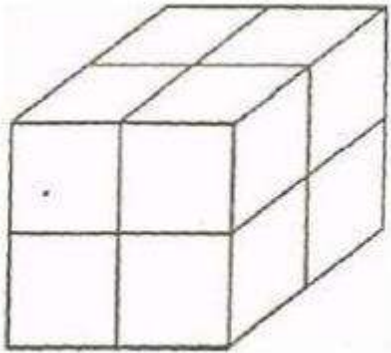measures 4 in.
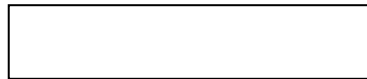
15 Sam's garden is a perfect square. Each side measures 8 feet. What is the perimeter of

his garden?
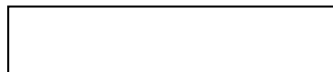
1 6. Leslie drew a triangle on the board. Each side measured 30 centimeters. What is the

perimeter of the triangle?

17. What is the perimeter of a hexagon whose sides all equal 4 yards ?

1 8. If two sides of a rectangular field are 2 km. wide, and two sides are 4 km. long, what

is the perimeter of the field?

19 Name the angles

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180°

----------------------   ------------------------------
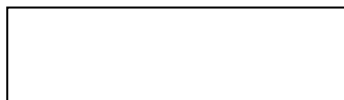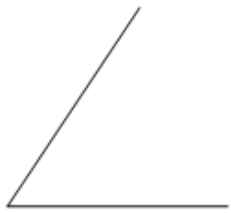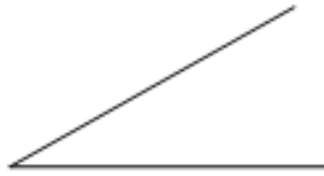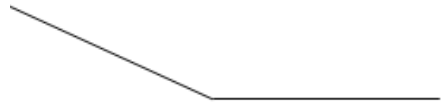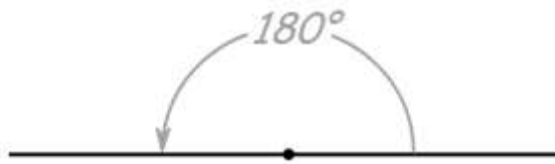
20   Find the perimeter by counting squares
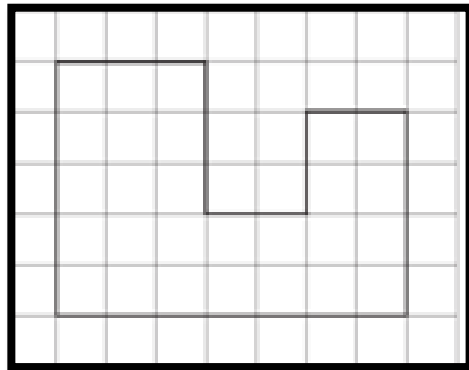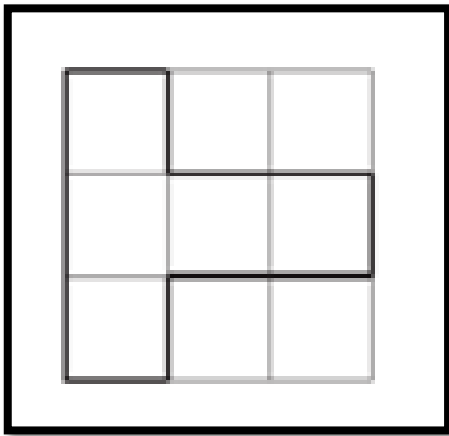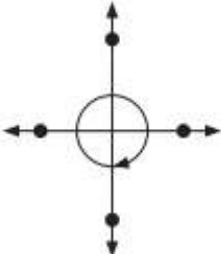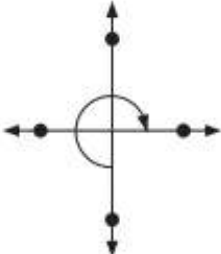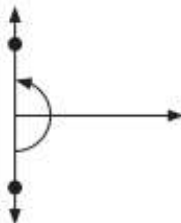
Count the number of $\frac{1}{4}$-turns.

Then write the measure of each angle.

┌─ *Example* ───┐

Angle	Number of $\frac{1}{4}$-turns	Measure of angle
	2	180°

└──┘

Angle	Number of $\frac{1}{4}$-turns	Measure of angle

22 I am standing at a major crossroads as shown below in the image below. Answer the questions that follow.
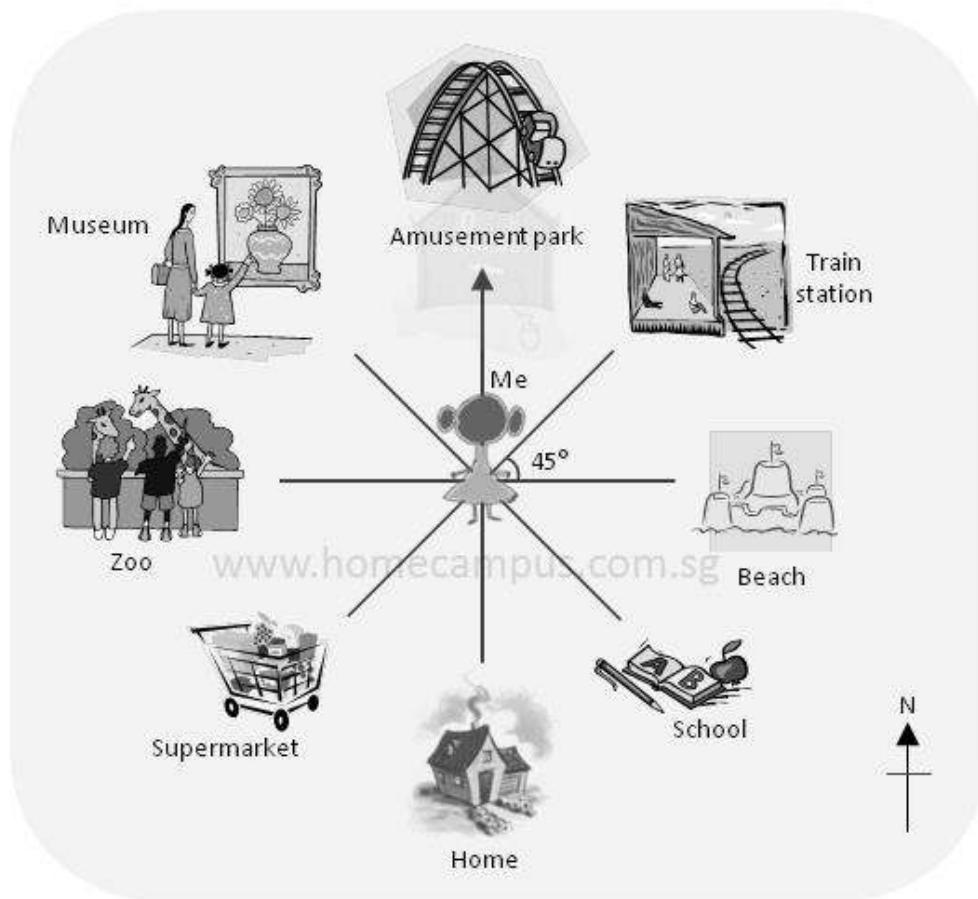
a) I am facing north. Which place is to my east? --------------

b) I am looking south. If I turn 45° in the clockwise direction, what will I be facing?
    ----

c) I am facing the zoo. How many degrees in the anti-clockwise direction must I turn to face the school? ----------------

d) I am facing south-west. Which place will I be facing if I turn 180°?--------------

e) After a three-quarter turn in the clockwise direction I end up facing the supermarket. Which direction was I facing at the start?----------------------

23 Write true or False

<table>
<tr>
<td>If you turn clockwise through 1 right angle you face the same direction as turning anticlockwise through 3 right angles</td>
<td>If you make a three-quarter turn clockwise, you face the same direction as turning anticlockwise through 2 right angles.</td>
</tr>
<tr>
<td>If you turn anticlockwise through 5 right angles you face the same direction as turning anticlockwise through 1right angle.</td>
<td>In 5 minutes the minute hand of a clock turns through one-third of a right angle.</td>
</tr>
</table>

24 Name the pair of perpendicular lines in this figure.
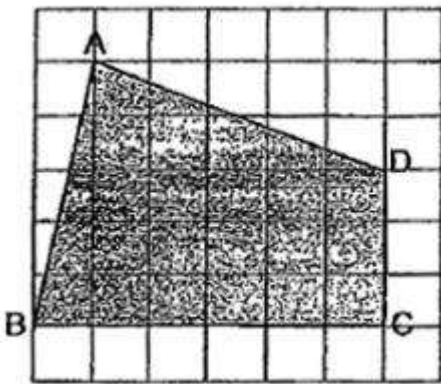
25 Emily has described this shape. Draw a tick (✓) or a cross (✗) by each of Emily's statements.
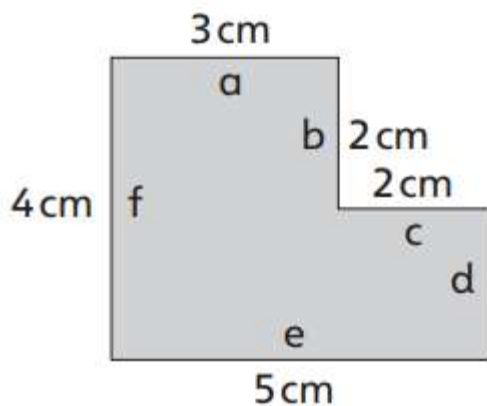
The shape has three horizontal lines ☐

The shape has three vertical lines. ☐

The shape has no diagonal lines. ☐

The shape has no pairs of parallel lines. ☐

Lines a and b are perpendicular. ☐

The shape has five right angles. ☐

The shape is a pentagon. ☐

26 Write the name of each of these 3D shapes.

I have 6 faces.

I have 8 vertices(corners)

Each face is a rectangle

I have 5 faces.

4 Faces are the same.

I face is a square.

I have 3 faces.

I can roll along.

2 of my faces are circles.

I have 2 faces.

I have one vertex (corner)

I stand on one of my faces

27 Write **always, sometimes or never** by the side of each statement.

A square is a quadrilateral. _____

A quadrilateral is a square._____

A pentagon is a polygon. _____

A rectangle has five right angles. _____

A pentagon has a right angle._____

28 Write the correct letter by each prescription to find the mystery word.
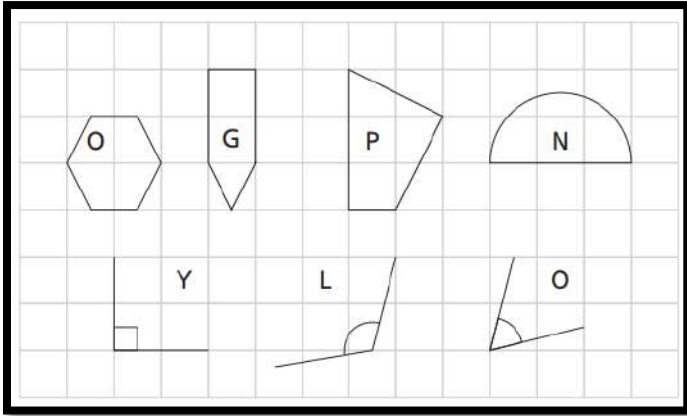
1 A quadrilateral __

2 A hexagon ___

3 An angle greater than 90°

4 A right angle ____

5 A pentagon ____

6 An angle less than 90°

7 Not a polygon ___

8 The mystery word is _____

29 Write ' Regular' or 'Irregular' polygon
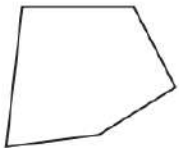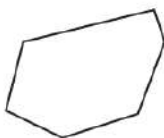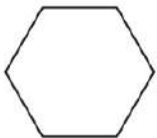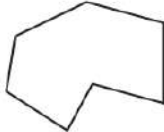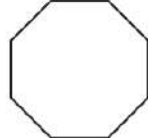
Week 3 and 4

1. Continue these sequences

| 487 | 488 | 489 | | |

| 315 | 320 | 325 | | |

2 Write the number represented by these blocks, sticks and cubes.

| |
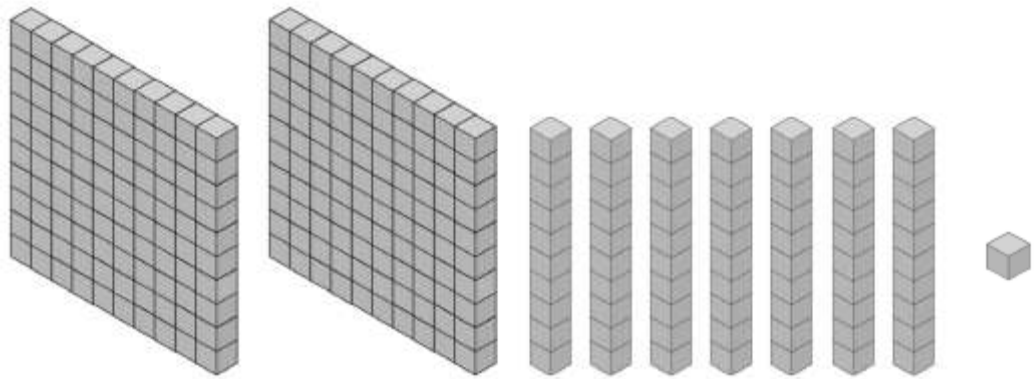
3 Write a number sentence to compare these two numbers, writing the numbers in

numerals and using either =, < or >

three hundred and seventeen

three hundred and seventy two

| | | |

4   a) Form the smallest 4-digit number using the following digits.

7   2   0   9

☐

b) Make largest 3 digit even number

☐

5 What number is one hundred more than two hundred and sixteen?

☐

6 What number is 10 less than 305?

☐

7 Which digit in the number 406 represent 6?

☐

8 Which digit in the number 526 represents the number of hundreds?

☐

9. There are fifteen apples on a tree. Six apples are on the ground. Which number

sentence shows how to find the total number of apples?

   A. 6+ 21 =27   B. 15 + 6 = 21   C. 27 -15 = 12   D. 15 – 6 = 9

10   Find the missing number to calculate

```
    3   8   ☐
  +   ☐   6
  ─────────
    4   3   8
```

11 Use the picture below to answer the question.

$$5 + 5 + 5$$
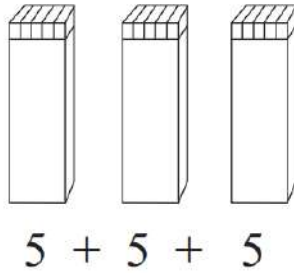
12   Which is another way to show the number of sticks of gum?

   A 3 x3   B 3 x 5   C 5x5   D 1x 3

13 Jimmy and Kima are going on a trip. They will drive for three days. The first day they

   will drive 182 miles. The second day they will drive 439 miles. The third day they will

   drive 217 miles. Which expression is the closest estimate of how many miles Jimmy

   and Kima will drive on their trip?

   A. 150 + 400 + 200   B. 200 + 400 + 200

   C. 200 + 450 + 200   D. 200 + 500 + 200

14 Brian has some cookies. He places them on a pan to model 6 × 4. Which figure could

   represent Brian's pan of cookies?
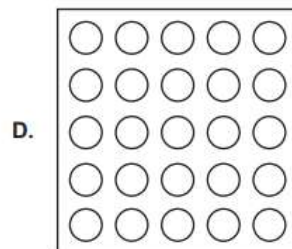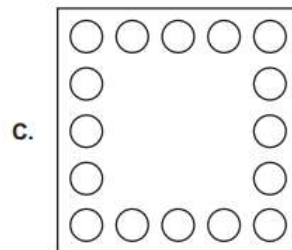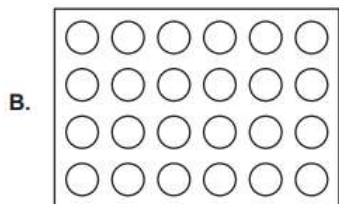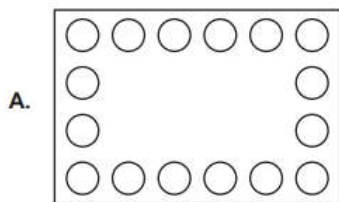
15 Sydney helps her mother with the garden for 7 days. They picked 3 tomatoes each

day. How many tomatoes do they have in total?
      A   12   B 21   C   18   D 73

16 What is the missing number?

$8 \times \boxed{} \quad = \quad 10 \times 8$

     A 2   B 4   C. 6   D. 10

17. Here are some digit cards: Use each digit card once to complete the following:

$$6 \quad \times \quad \boxed{} \quad = \quad \boxed{} \quad \times \quad \boxed{}$$

18   Look at the squares:

    Which of the following best describes the total number of squares?

   a. 2 groups of 4   b. 3 groups of 4
   c.   4 groups of 4   d. 5 groups of 4

19 Write a multiplication sentence (NOT just the answer) to solve how many legs these

animals have in total.

      a. seven horses _____

      b. five ducks _____

      c. eight horses and six ducks _____

20 a) Round to the nearest 10

79 _____   84 _____   24 _____   52 _____

b) Round to the nearest 100

551 _____   195 _____   728 _____   762 _____

21 Fill in the blanks with the correct number


```
    _ 5 _              _ 2 _

         Write 4
         numbers
        that round
          to 20

    1 _ _              2 _ _
```
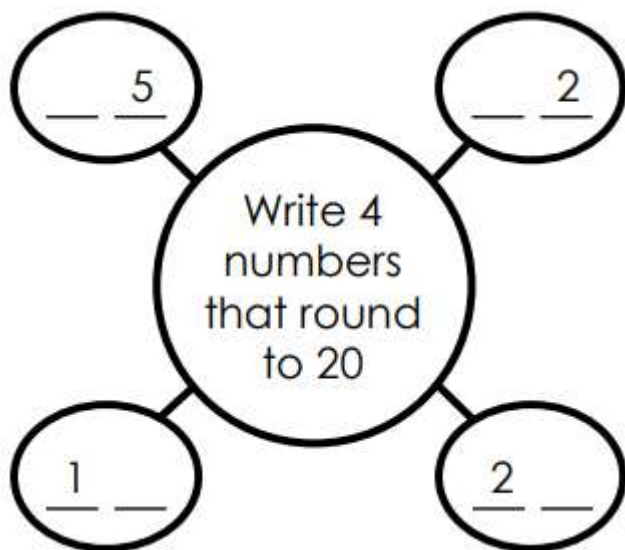
22   What is 33 rounded to the nearest ten? a. _____

23   What is 850 rounded to the nearest hundred? _____

24 Maria invited 4 of her friends over for a water balloon fight in the backyard. At the start of the game, Maria gave each of her friends 2 water balloons. She had one water balloon for herself. How many water balloons did they have altogether?

25 The table below shows the Jaguars' total points for each of four basketball seasons.

Which number sentence correctly compares the Jaguars' total points for two seasons?

Jaguars' Total Points per Season

Season	Total Points
1	875
2	570
3	785
4	507

Which number sentence correctly compares the Jaguars' total points for two seasons?

A. $507 = 570$

B. $570 < 507$

C. $785 > 875$

D. $875 > 785$

26 A team leader divided a group of 24 children into teams. Can he divide the children

equally into teams of 5?   Teams of 6? Teams of 7?

27   4 pears cost £2.00. Jane bought some pears for $10. How many pears did she
buy?

28 Uncle Tom had 82 sweets. After giving 5 sweets to each child at a party, he had 2
sweets left.
(a)   How many children were there at the party?

(b) If he had given 4 sweets to each child at the party, how many sweets would he
have left?

29 Ben went to the beach yesterday. He found the seashells shown below.
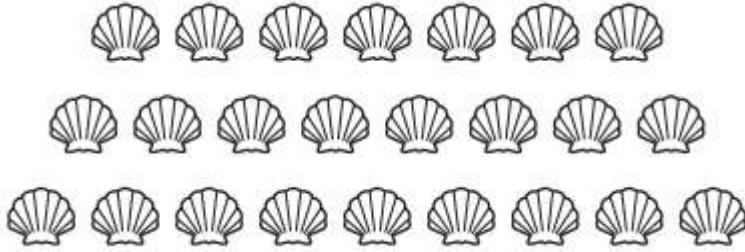
a) Ben gave them all away. A. Ben gave seashells to 6 people. He gave the same number of seashells to each person. The first person he gave seashells to was Chad. Circle each of the seashells Ben gave to Chad.

b) Ben goes to the beach again today. He finds the same number of seashells today as he did yesterday. Ben gives all the seashells away to more than 6 people. Each person gets the same number of seashells. To how many people can Ben give the seashells? Show or explain how you found your answer.

30 Here is a diagram for rounding numbers to the nearest 10. Write these numbers in

the correct boxes. One has been done for you.

61   48   59   52
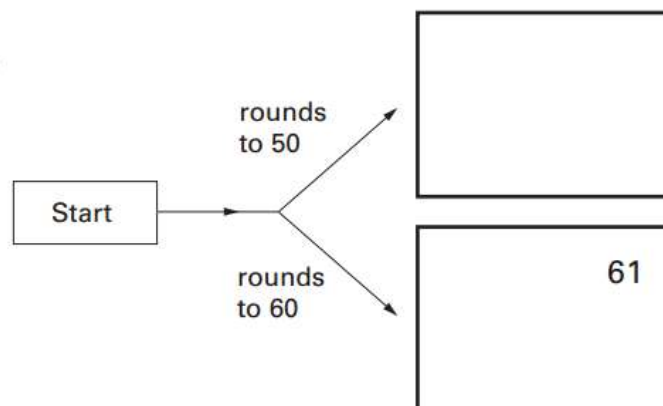
31 Complete the following as quickly as you can.

a) $9 \times 3 \; = \; \boxed{}$ d) $21 \div 3 \; = \; \boxed{}$

b) $6 \times 3 \; = \; \boxed{}$ e) $18 \div 3 \; = \; \boxed{}$

c) $4 \times 3 \; = \; \boxed{}$ f) $36 \div 3 \; = \; \boxed{}$

32 Write the missing numbers in the boxes.

a) 25   is half of $\boxed{}$
b) 15 is double of $\boxed{}$
c) $\boxed{}$ is half of 48

33   Apples are sold in packets of **4** at the supermarket.
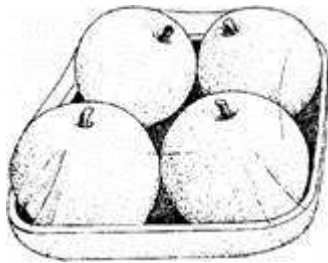
How many apples are in **28** packs?

34 Sarah's cat eats one tin of this cat food each day.

How much does it cost to feed Sarah's cat for **7** days?

35 A school buys some tennis sets. Each set has 2 racquets and 5 tennis balls. The school

buys enough sets to have 10 racquets. How many tennis balls will be in the sets?

Week 5 and 6

1 Here are three lines. Order them from the shortest length to the longest length?

a

b

d

c

shortest   longest
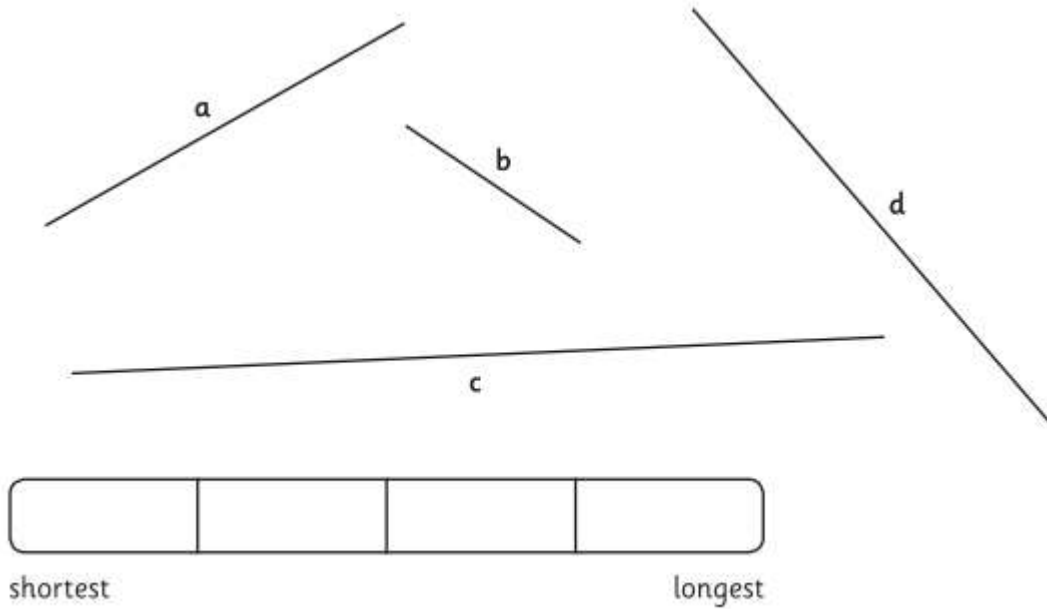
2 Measure the length of this line in centimetres.

_____

3 Use the table below to answer the question.
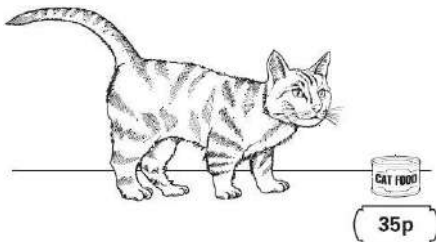
Child	Jack	Trevon	Anna	Gabby
Height	137 cm	1 m	92 cm	120 cm

   a) Which list order the children from tallest to shortest?

   A Jack, Gabby, Trevon, Anna

   B. Jack, Trevon, Anna, Gabby

   C. Trevon, Anna, Gabby, Jack

   D. Anna, Trevon, Gabby, Jack

   b) Which pupils measure is 100cm? _____

4 Look at the pencils. How much longer is the biggest than the smallest pencil?
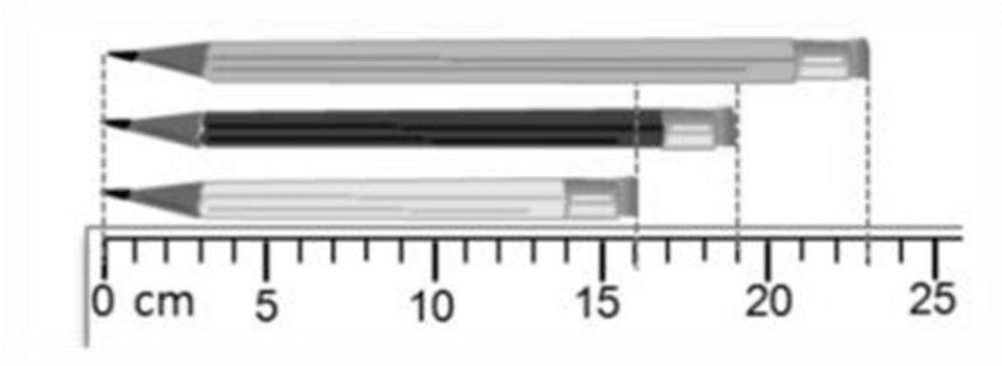
5 What is the time shown on the clock below?

6 Write the time the clock shows, and the time 10 minutes later.

	a. _____:_____	b. _____:_____	c. _____:_____	d. _____:_____
10 min. later	_____:_____	_____:_____	_____:_____	_____:_____

Draw a line to match each time with its partner.

9
25 past 3

10 minutes later
than 5:40

10
quarter to 4 in
the afternoon

3:45 pm

11

10:07

12

11:52

2:48

13

8 minutes to 12

14
12 minutes before
3 o'clock

24-hour-clock challenge!

15 Write four times between
12:00 and 23:00 on these
24-hour clocks. Write the
pm times underneath.

8 What time is showing on the clock?

9 Darla's music lesson begins at 3:30 P.M. The lesson is 45 minutes long. Which clock shows the time her music lesson ends?

A.

C.

B.

D.
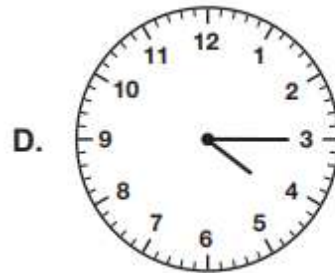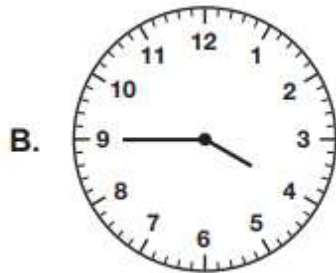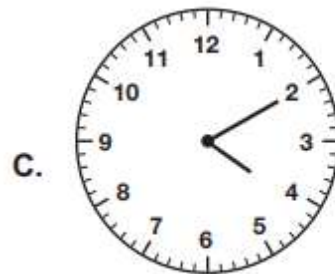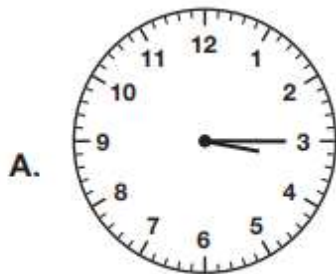
10 The TV show starts at 6:25 PM and ends at 7:10 PM. How long is it?

11 Mr. Jackson's plane takes off at 9:30 AM. If the flight lasts for 3 hours 20 minutes, when will the plane land?

12 The baseball game was going to be on May 21, but it was postponed (made later) by one week. What was the new date for the game?

13 The clock shown below is 15 minutes fast. What is the actual time?

14

Write these times in digital format.

① ② ③ ④

Draw the hands on each clock to match the time.

⑤ half past twelve

⑦ ten to six

⑥ quarter past ten

⑧ five to two

⑨ Tom says there are 30 days in each of these months. ✓ if he is right, ✗ if he is wrong.

March		April		June		October	

25

15 Ben starts running the race at 1.00. He finishes at 1.30. How long does it take him to

get to the finish? The last person gets to the finish at 2.00. How long did they take?

```
┌─────────────────────────────┐
│                             │
│                             │
└─────────────────────────────┘
```

16 One straw is 10cm long, another is 20 cm long. How long would they be if I joined them

together?

```
┌─────────────────────────────┐
│                             │
│                             │
│                             │
└─────────────────────────────┘
```

17 The car is 2 metres long. My drive is 5 metres long. How many cars will fit on it?

```
┌─────────────────────────────┐
│                             │
│                             │
│                             │
└─────────────────────────────┘
```

18 Lucy is 86cm tall.Lauren is 96cm tall.Who is the tallest?How much taller is she?

```
┌─────────────────────────────┐
│                             │
│                             │
│                             │
└─────────────────────────────┘
```

Week 7 and 8

1 What fraction of the shape below is shaded?
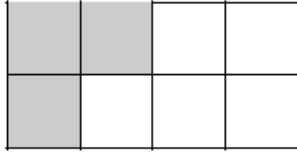
2 Compare the fractions, and write > , < , or = in the box.

a. $\dfrac{2}{7}$ ☐ $\dfrac{2}{3}$ b. $\dfrac{5}{11}$ ☐ $\dfrac{7}{11}$ c. $\dfrac{1}{2}$ ☐ $\dfrac{9}{10}$ d. $\dfrac{1}{7}$ ☐ $\dfrac{1}{8}$

3 Mary ate 1/2 of a strawberry pie, and David ate 7/12 of a blueberry pie. Look at the

pictures. Who ate more pie?   Mary's pie: David's pie:
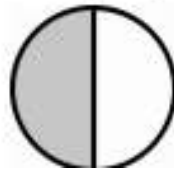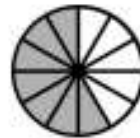
4 Cassie cut all these oranges into quarters. How many quarters does she have

altogether?

5 Order the following fractions from smallest to largest

$\dfrac{1}{2}$ $\dfrac{1}{3}$ $\dfrac{1}{6}$

smallest   largest

6 Two pizzas are cut into 1/5s. Miss Wooderson eats 2/5s of the ham and pineapple and

3/5s of the mushroom pizza. How much pizza did she eat altogether?

7 An apple pie is sliced into eighths. 2/8s of the apple pie are eaten with custard and

4/8s of the apple pie are eaten with cream. What fraction of apple pie was left?

8 Some children buy 2 pizzas. The pizzas are the same size. The cheese and tomato pizza

is cut into 6 pieces. The pepperoni pizza is cut into 8 pieces. Which pieces are larger,

the cheese and tomato pizza or the pepperoni pizza?

9 Solve the following

a

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

b

$$\frac{1}{5} + \frac{1}{5} =$$

c

$$\frac{1}{3} \text{ of } 60 =$$

d

$$\frac{1}{2} \text{ of } 200 =$$

e

$$\frac{1}{2} \text{ of } 30 =$$

Pets

10   Meg has 20 pet stickers to go on this page.
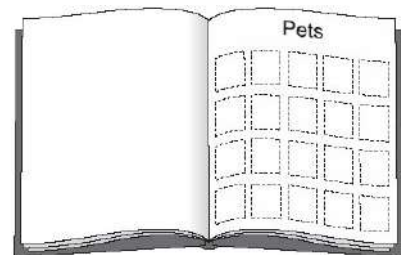
$\frac{1}{4}$ of them are dog stickers. $\frac{1}{2}$ of them are cat stickers. The rest are rabbit

stickers. How many rabbit stickers does she have?

11

| £5.40 | | 72p | | £2.88 |

| | £0.65 | | £10 | |
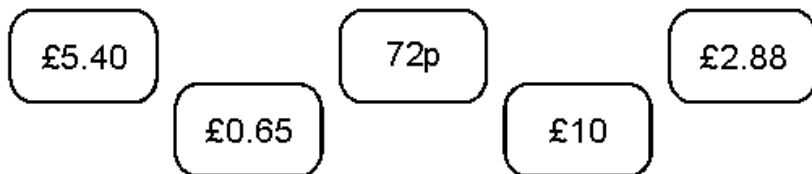
Write these amounts of money in **order of size**, starting with the **smallest** amount.

smallest

12 Ben wants to buy a packet of biscuits.

He gives the shopkeeper **75p**

The shopkeeper says,

'*You need 25p more to buy the biscuits*'.

How much do the biscuits cost?

13 Tim buys a 19p postcard.

19p
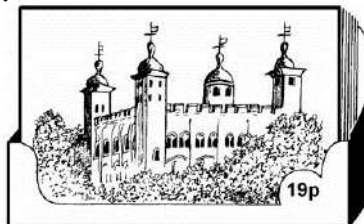
He pays **exactly** 19p with five coins. What could the **five coins** be?

14 Jack buys one jar of cherry jam for 82p.

He pays with a **£5** note. How much **change** does he get?

15 In the supermarket, apples cost **£1.65** and bananas cost **£1.00**.
    If Hanniya buys apples and bananas, how much change will she
    get from **£5.00**?

16

Mrs Jones loves drinking tea!

At **6am** she drinks **two** cups.

Then **every two hours** she drinks **three more** cups until

at **10pm** she drinks **two** cups before bed.

Altogether, how many cups of tea does she drink in one day?

17   . Here are 4 fraction cards.

$$\frac{1}{8} \quad \frac{3}{8} \quad \frac{4}{8} \quad \frac{5}{8}$$

a) Choose 2 cards with a total of one whole.

☐ + ☐ = 1

b) Choose 3 cards with a total of one whole.

☐ + ☐ + ☐ = 1

18

How many slices of my cheese pizzas would you like?

2 please.

2 please.

7 for me.

6 for me.
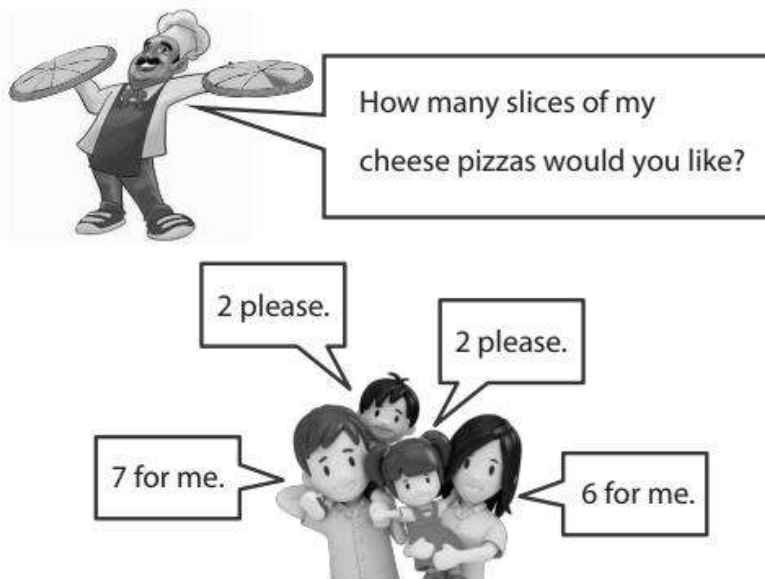
You can buy whole pizzas or slices.

There are **8 slices** in a whole pizza. It costs **£5**

1 slice costs **£1**

How much does the family pay?

Graph of animals
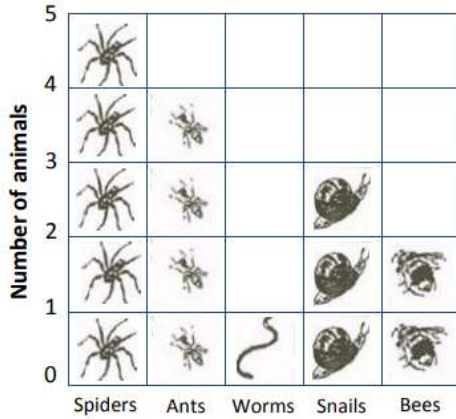
a. How many spiders are there?

_____

b. How many snails are there?

_____

c. How many more ants than bees are there?

_____

19

Complete the bar chart.
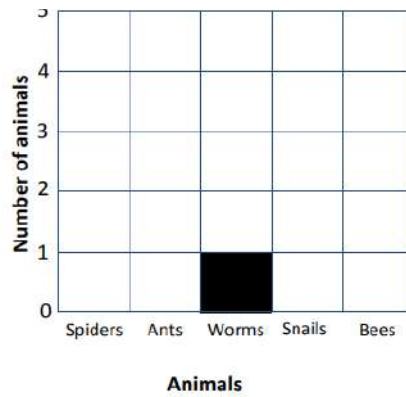
20 Complete the Venn diagram

cuboid   sphere   pyramid   cone   cube   ovoid   cylinder

32
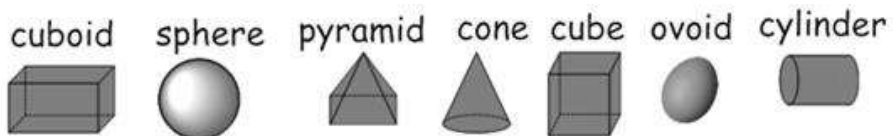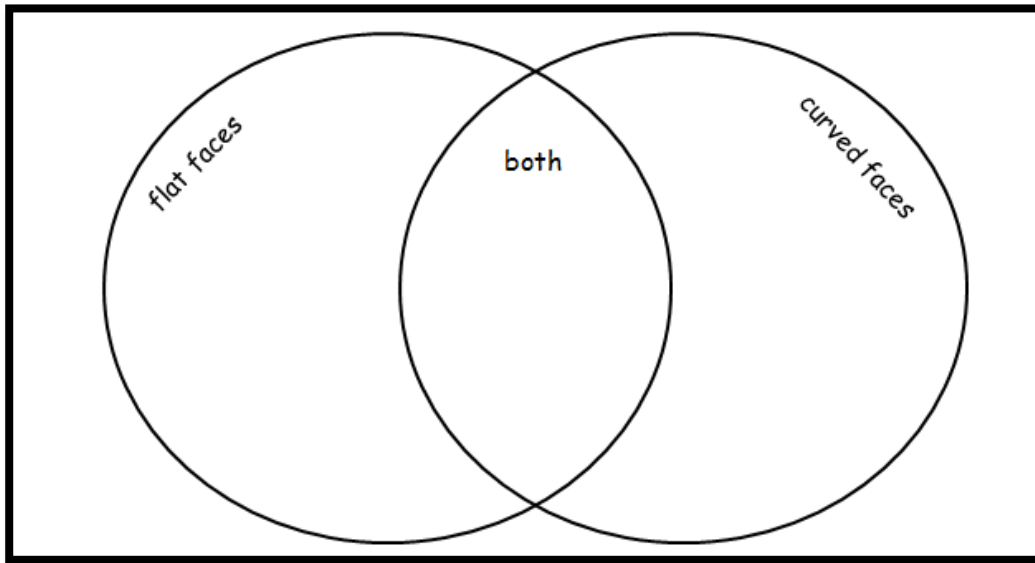
21 The graph shows some people's working hours on Uncle Ted's apple farm.

   a. How many hours did Erica work?

   b. How many hours did Kathy work?

   c. How many more hours did Jason work than Jack?

   d. How many hours did the three boys work in total?
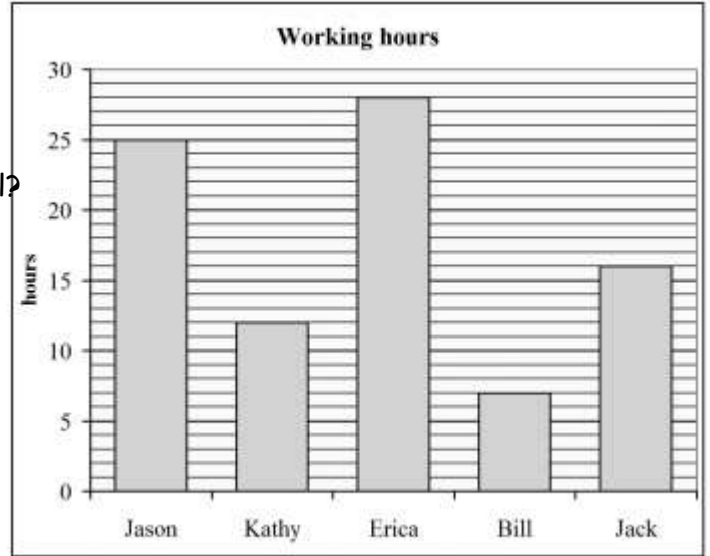
22 A group of children take a spelling test. They repeat the test the following week. Their results are recorded in the following table.

Name	Test score 1	Test score 2
Kasia	5	8
Bailey	6	8
Shanelle	4	7
Aleena	5	6
Conor	3	9

   a) Who got the highest score in the first test ?

   b) Who made the biggest improvement from the first to the second test?

23 Class 3 decided to find out the favourite fruit of their class. They record their

results in the pictogram.

Banana	⚫⚫⚫⚫⚫⚫
Apple	⚫⚫⚫⚫◖
Orange	⚫⚫⚫◖
Grapes	⚫⚫

Key
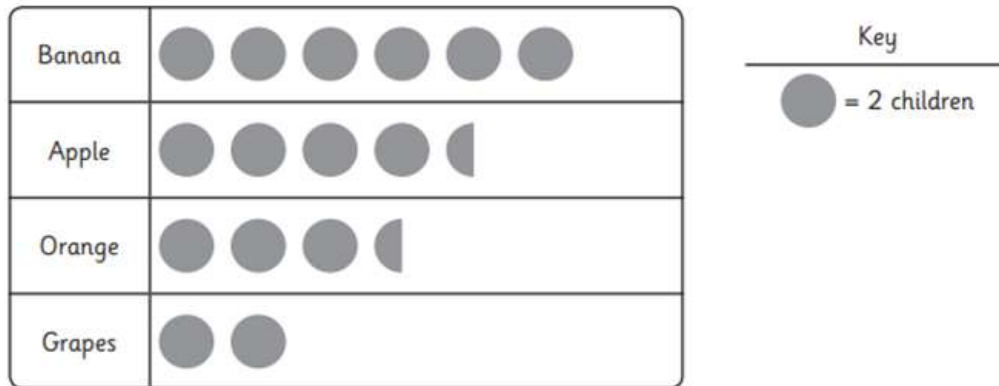
⚫ = 2 children

a) How many more children chose banana as a favourite fruit than apples? ▢

b) How many children took part in survey? ▢

24 Some children record the number of different vehicles that drive past the school in

one hour. They record the results in a table and draw a bar chart. Complete the table

and bar chart.

Vehicle	Number of Vehicles
Bus	4
Car	
Lorry	12
Motorbike	3
Van	14
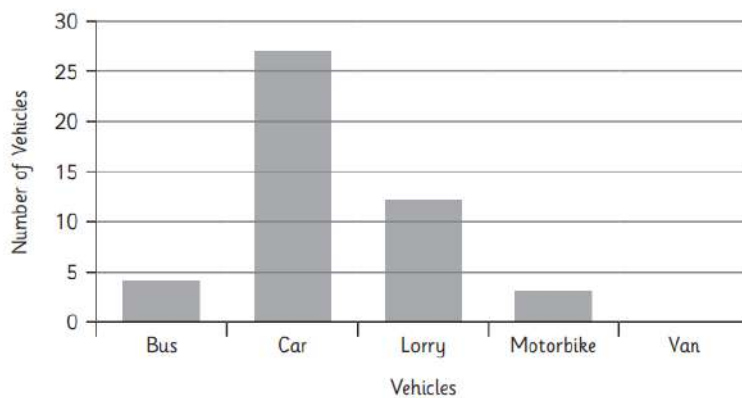
25 Use the graph below to answer the question.

Library Books
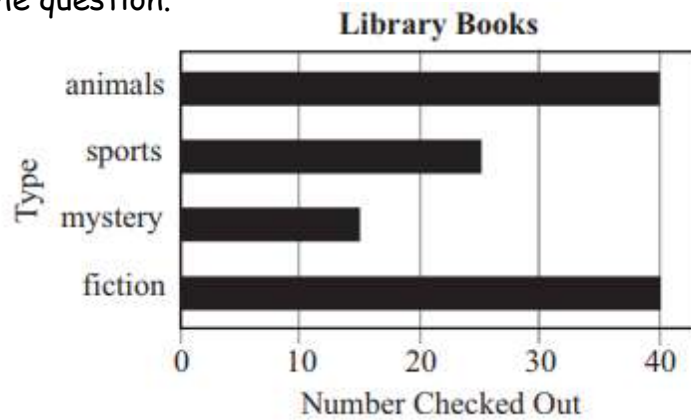
A How many more fiction books are checked out than sports book?

Thinking Corner (Questions 1- 7 are Optional)

1

Queen Esmerelda had 20 gold coins.
She put them in four piles.

◆ The first pile had four more coins than the second.
◆ The second pile had one less coin than the third.
◆ The fourth pile had twice as many coins as the second.

How many gold coins did Esmerelda put in each pile?

2   A Brip walks up 9 steps of a
     staircase then goes back 4 steps
     to pick up something she has
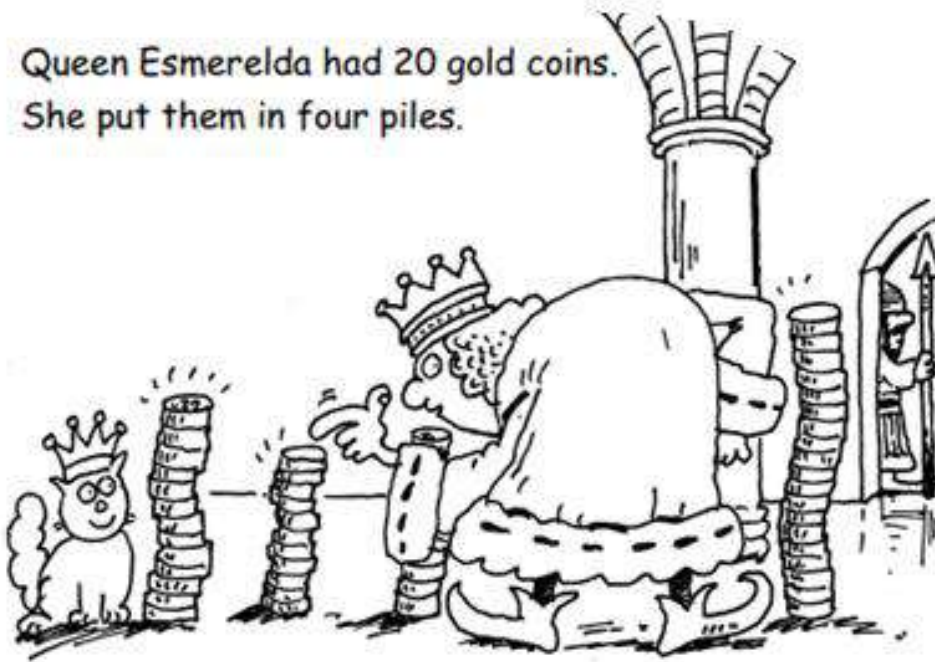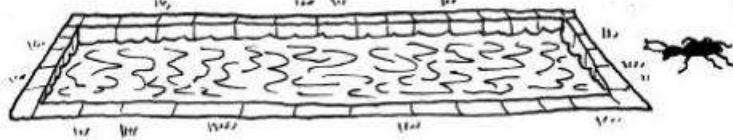   dropped. She then walks 8 steps
     to the top. How many steps does
     the staircase have?

3   A swimming pool is 10 metres long and 6 metres wide.
     Each day a Yox walks around it to check for beetles.
     How far does he walk each day?

4   A Gupp is making a new garden fence. It will
     be made up of 12 vertical posts, each 2
     metres apart. The posts will be joined by
     wires. How long will the fence be?
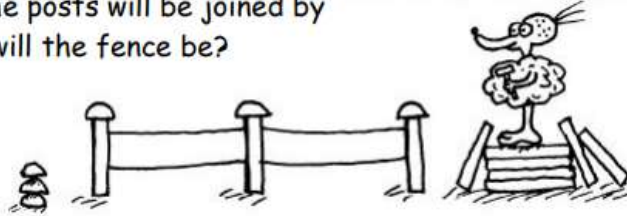
5   Maisie had between
     30 and 50 breadcrumbs.
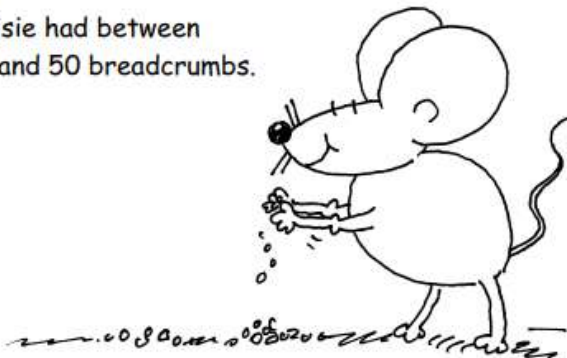
     She counted the breadcrumbs in fours.
     There were 2 left over.

     She counted them in fives.
     There was 1 left over.

     How many breadcrumbs did Maisie have?

6

You need 20 straws all the same length.

There are 12 straws in this pattern of 5 squares.
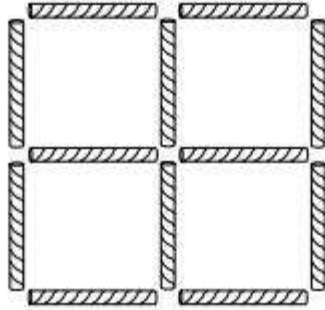
Take 20 straws.
Arrange them to make as many squares as you can.
Don't bend or break the straws!

How many squares did you make?

7   On the coast there are three lighthouses.
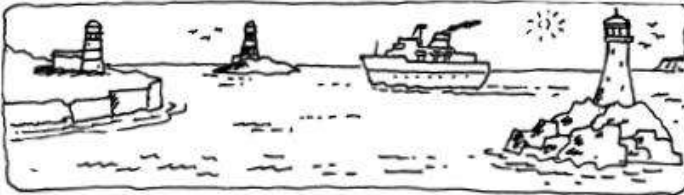
The first light shines for 3 seconds, then is
off for 3 seconds.
The second light shines for 4 seconds, then is
off for 4 seconds.
The third light shines for 5 seconds, then is
off for 5 seconds.

All three lights have just come on together.
When is the first time that all three lights will be off?
When is the next time that all three lights will come on
at the same moment?

Problem solving investigation

1

| 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |

1. Take a set of 0 to 9 digit cards.

2. Use the digit cards in pairs to make two-digit numbers.

   Each number must EITHER be a multiple of 2 or multiple of 5.

   | 2 | 4 | | 3 | 5 |

   Can you do this and use ALL of the cards?
   How many numbers do you need to make?

3. Can you find a different way?

4. Can you make all the numbers multiples of 5? Why/why not?
   Can you make ALL of the numbers multiples of 2? Why/why not?
   Can you make at least one of each?

2

Guess my number

1. Use these clues to work out Magical Max's mystery three-digit number.

   - My number is odd.
   - The first digit is even.
   - My number rounds up to 500 (to the nearest 100).
   - The three digits add up to 15.
   - The second digit is 2 more than the first digit.
   - What is my number?

2. Now try and work out this mystery three-digit number.

   - My number is even.
   - The three digits are consecutive (next to each other on the number line).
   - My number rounds to 200 (to the nearest 100).
   - The last digit is double the first.
   - What is my number?

1. Use your knowledge about finding fractions of numbers to solve this logic puzzle.

> I am a whole number between 10 and 25.
> If you halve me, your answer will not be a whole number.
> If you find $\frac{1}{3}$ of me, your answer will be a multiple of 5.
> If you try to find $\frac{1}{4}$ of me, you may get a headache!
> If you find $\frac{1}{5}$ of me, your answer will be a whole number.
> What am I?

2. Have a go at this one!

> I am a very special number between 10 and 20.
> I am special because if you find $\frac{1}{2}$ of me, $\frac{1}{3}$ of me, $\frac{1}{4}$ of me, or even $\frac{1}{6}$ of me, you will get a whole number answer!
> What am I?

Testing 10s

1. Write a 2-digit number. Multiply it by 10.

2. Add these two numbers together.

3. Add the 100s and 1s digits (the two outside digits, 7 and 7).

   Then subtract the 10s digit (the middle digit).

4. Repeat with ten different 2-digit numbers.

> 67 x 10 - 670
> 670 + 67
> 670 + 60 + 7 - 737
> 7+7 - 14
> 14-3- 11
>
> 35 x 10 -