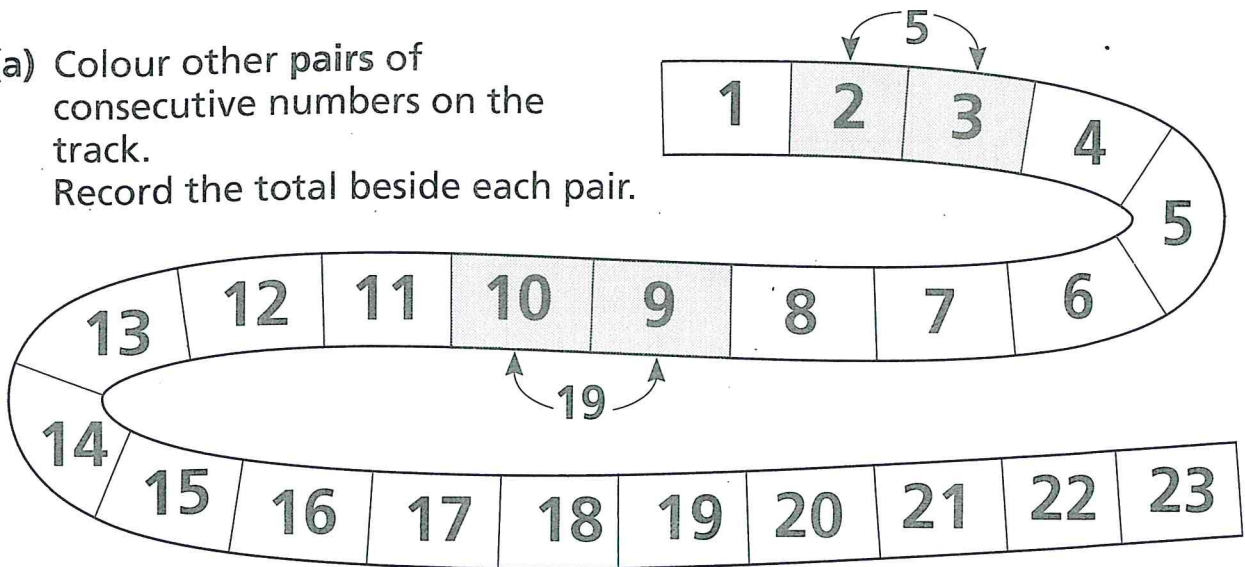


3 Track totals

Name _____

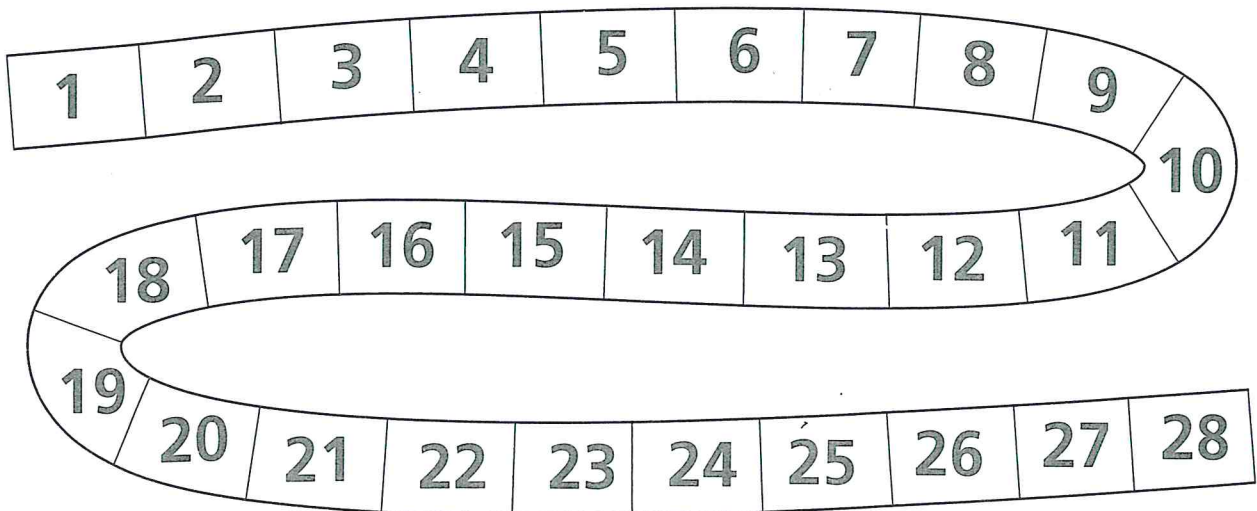
- 1 (a) Colour other pairs of consecutive numbers on the track.
Record the total beside each pair.



- (b) What kind of number is each total?

- (c) Check that this is true for other pairs of consecutive numbers **not** on the track.

- 2 (a) Colour sets of three consecutive numbers on the track.
Record the total beside each set.



- (b) What do you notice about the totals?

- (c) Check that this is true for other sets of three consecutive numbers.

6

Row or column?

Name _____

- 1 Find the row or column with the most numbers which divide exactly by 7 or by 8 or by 9.

| | | | | | | | | | |
|----|----|----|----|----|----|----|----|----|-----|
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
| 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 |
| 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 |
| 31 | 32 | 33 | 34 | 35 | 36 | 37 | 38 | 39 | 40 |
| 41 | 42 | 43 | 44 | 45 | 46 | 47 | 48 | 49 | 50 |
| 51 | 52 | 53 | 54 | 55 | 56 | 57 | 58 | 59 | 60 |
| 61 | 62 | 63 | 64 | 65 | 66 | 67 | 68 | 69 | 70 |
| 71 | 72 | 73 | 74 | 75 | 76 | 77 | 78 | 79 | 80 |
| 81 | 82 | 83 | 84 | 85 | 86 | 87 | 88 | 89 | 90 |
| 91 | 92 | 93 | 94 | 95 | 96 | 97 | 98 | 99 | 100 |

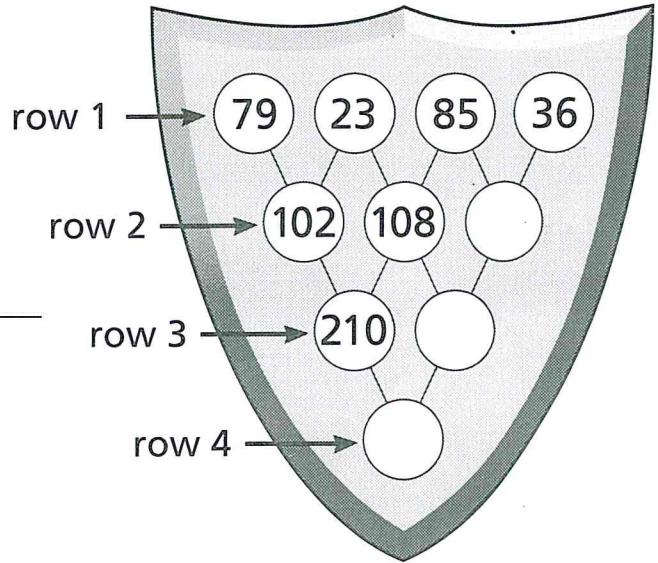
- 2 Find a square of four numbers like this $\begin{array}{|c|c|} \hline \square & \square \\ \hline \square & \square \\ \hline \end{array}$ on the grid so that
- the total of the four numbers is as large as possible, and
 - none of the numbers divides exactly by 7 or by 8 or by 9.

8 Shields



Name _____

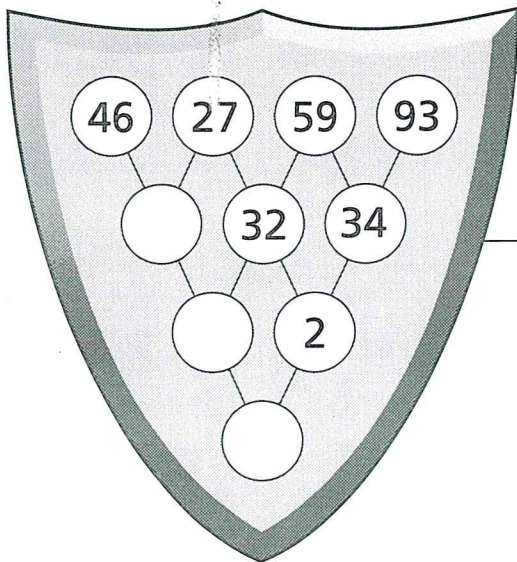
- 1 Each number in rows 2, 3 and 4 is found from the two numbers directly above it by using a rule.



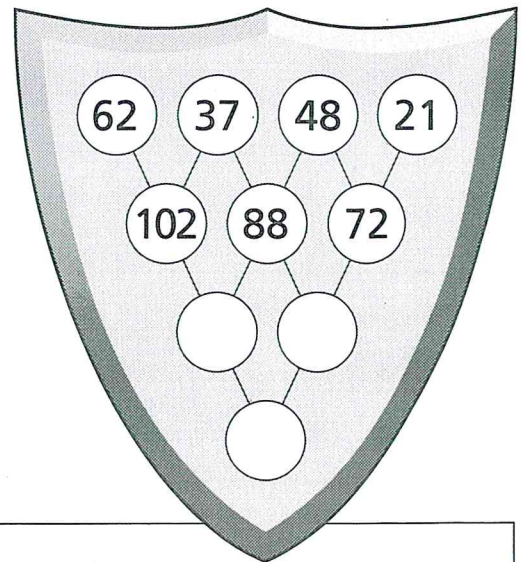
(a) Write the rule.

(b) Fill in the missing numbers.

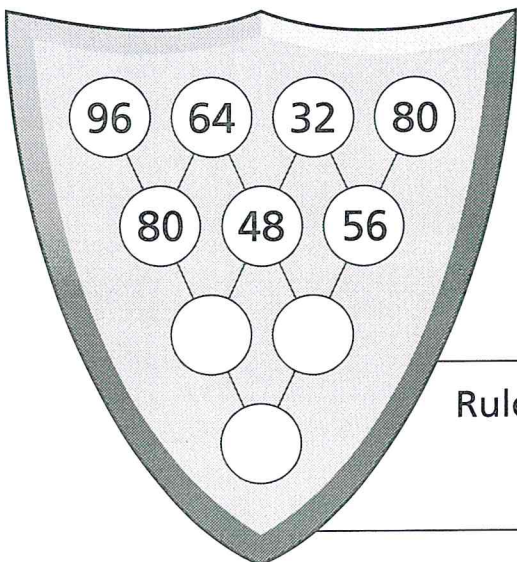
- 2 Do this again for these shields.



Rule



Rule



Rule

9 Cops and robbers

It takes 8 police officers to surround 1 robber.



It takes 10 officers to surround 2 robbers.

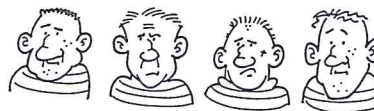


1 (a) Find how many it takes to surround

3 robbers



4 robbers



... and so on.

(b) Make a table to show the results. What number patterns do you see?

| robbers | cops |
|---------|------|
| 1 | 8 |
| 2 | 10 |
| 3 | |
| 4 | |

(c) How many officers are needed to surround 10 robbers?

Some robbers are so dangerous they need to be surrounded like this:



3 robbers

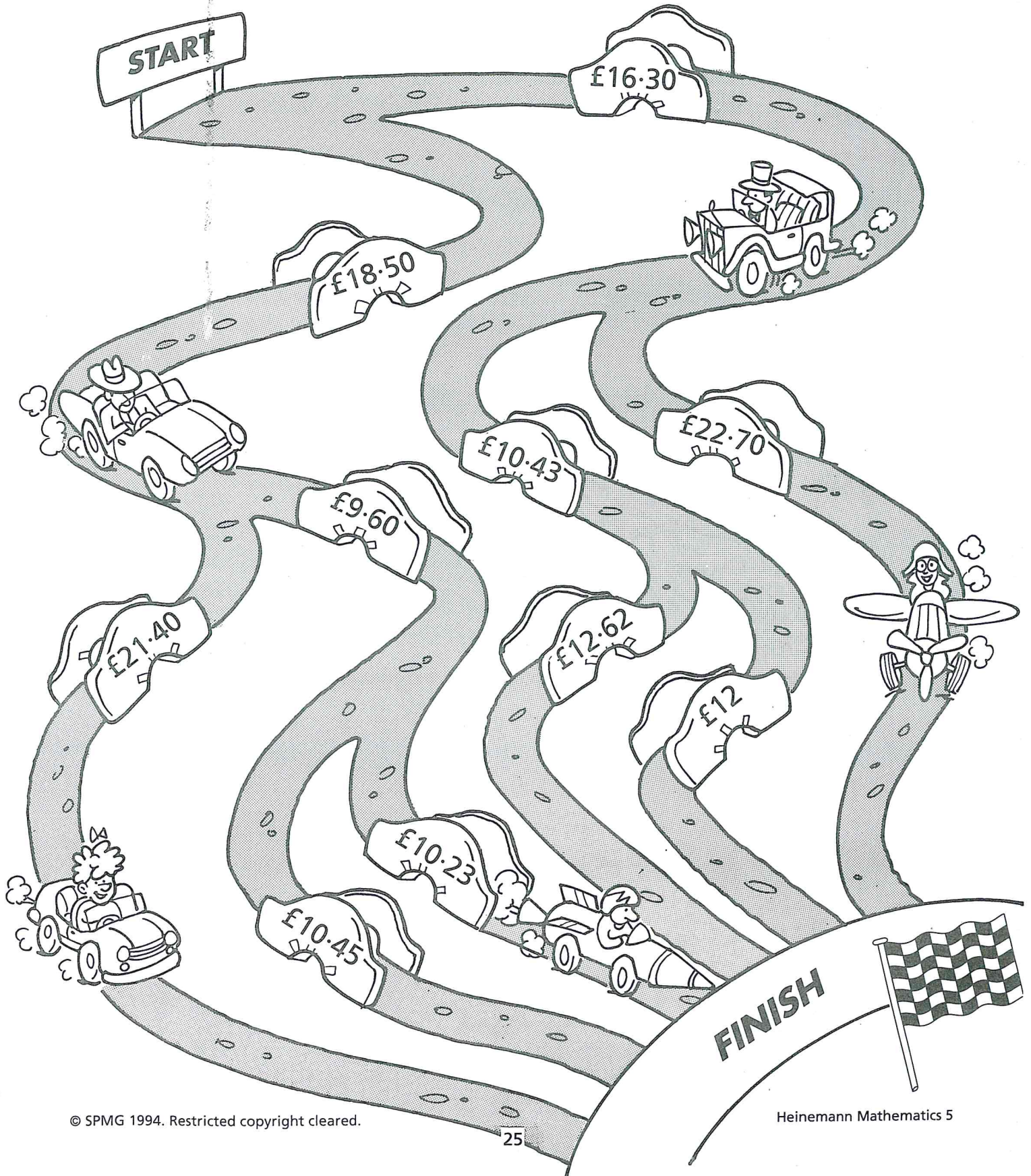
2 (a) Investigate the number of officers now needed to surround 10 robbers.

(b) Describe any patterns you find.

10 Toll bridges



Each bridge shows the toll paid to cross it.
What is the least amount you can pay to reach the Finish?



11 Shopping bills



1 Vijay spilled coffee on these bills. Find the missing amounts.

(a)

| Henry's Hardware Store | |
|------------------------|-------------------------|
| hammer | £3.40 |
| nails | £1.35 |
| screws | £ |
| <hr/> | |
| Total | £5.87 |

(b)

| Safebuy Supermarket | |
|---------------------|---------------------------|
| bread | 58p |
| butter | |
| marmalade | 71p |
| oranges | 56p |
| <hr/> | |
| Total | £2.48 |

(c)

| Ken's corner shop | |
|--|--------|
| 6 tins of beans at p each | £1.62 |
| jars of coffee at £2.76 each | £22.08 |

2 At the butcher's, Janet received £1.67 change from a £10 note. How much did the chops cost?

| McDougall the Butcher | |
|-----------------------|-----------------------|
| sausages | £1.28 |
| mince | £1.16 |
| pie | £2.65 |
| chops | |
| <hr/> | |
| Total | |

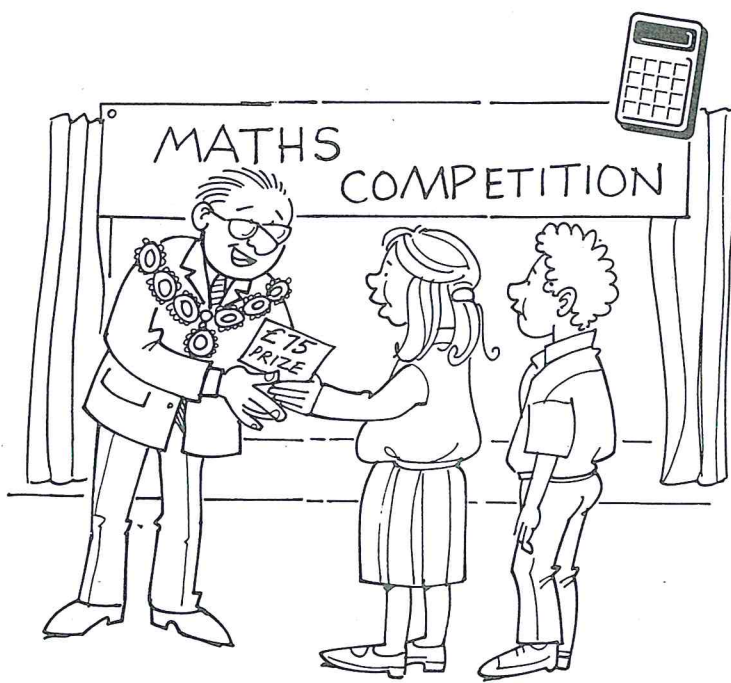
3 How many pencils and how many rulers were bought from Simpson's?

| Simpson's | |
|--------------------------|-----------------------|
| pencils at 17 pence each | |
| rulers at 24 pence each | |
| <hr/> | |
| Total | 99p |

12 Party time

- Class 5 have won a £75 prize for their Maths Project.

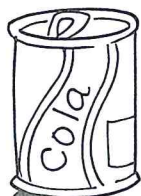
They decide to spend the money on a party in the school.



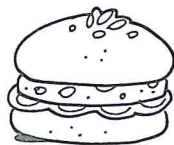
- They find the cost of food and drink.



crisps
24p



diet cola
33p



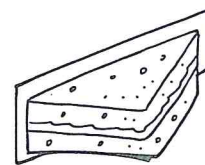
burger
83p



apple
18p



juice
22p



sandwich
32p

- They also investigate the cost of entertainment.



Dave's disco
£35



The Wailers
£55



The Great Waldo
£41

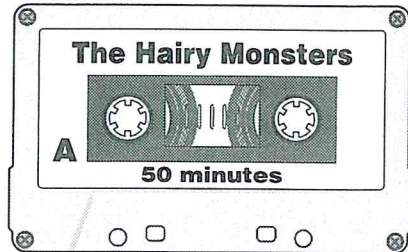
Use this information to plan the party for the 24 children in Class 5. Your plan should

- spend as much of the £75 as possible
- show the costs for food, drink and entertainment
- show how much money will be left over.

17 Double-sided tape

Name _____

The Hairy Monsters have recorded these songs.
25 minutes of music can be recorded on each side of this tape.



| | |
|---------------------|------------|
| Ban the soap | 8 minutes |
| Bang my drum | 6 minutes |
| Computer crazy | 10 minutes |
| Let's scream | 6 minutes |
| Play it again Terry | 5 minutes |
| Sea of gunge | 3 minutes |
| Sound of noise | 7 minutes |
| Trashcan blues | 5 minutes |

1 Complete the label to show how the songs could fit on the tape.

| | |
|---|---|
| <p>SIDE A</p> <hr/> <hr/> <hr/> <hr/> <hr/> | <p>SIDE B</p> <hr/> <hr/> <hr/> <hr/> <hr/> |
|---|---|

2 Find two other ways of fitting these songs on the tape.
There should be a different selection of songs on each side.

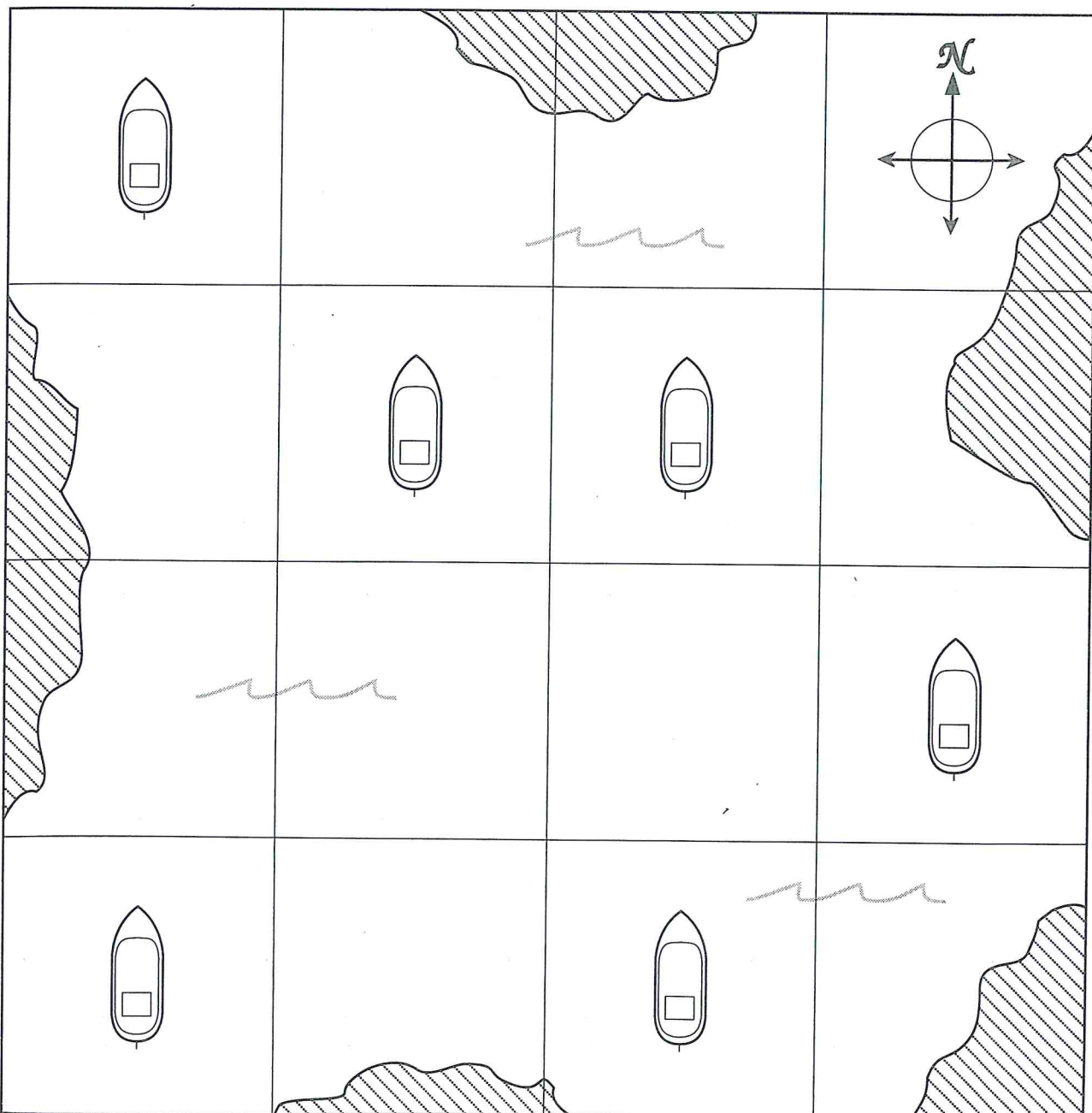
| | |
|---|---|
| <p>SIDE A</p> <hr/> <hr/> <hr/> <hr/> <hr/> | <p>SIDE B</p> <hr/> <hr/> <hr/> <hr/> <hr/> |
|---|---|

| | |
|---|---|
| <p>SIDE A</p> <hr/> <hr/> <hr/> <hr/> <hr/> | <p>SIDE B</p> <hr/> <hr/> <hr/> <hr/> <hr/> |
|---|---|

Name _____

Use these clues. Write the name on each boat.

- When the captain of *Fairwind* turns 45° clockwise from north he sees *Moonbeam*.
- *Seacrest* is furthest north.
- When the captain of *Seacrest* turns 180° anti-clockwise from north she sees *Coral*.
- *Puffin* is to the east of *Albatross*.

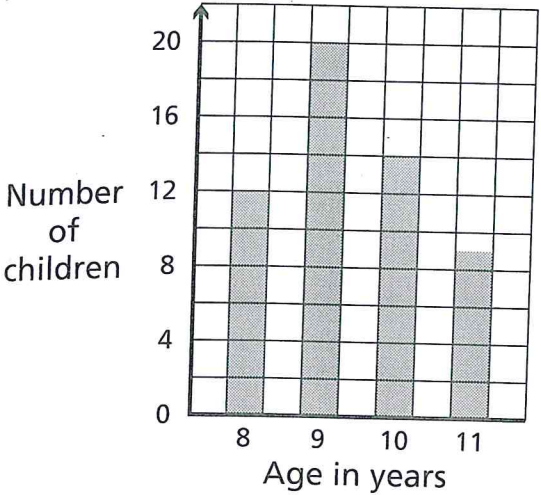


25 Our school

Which two graphs could represent the same school?
Explain your answer.

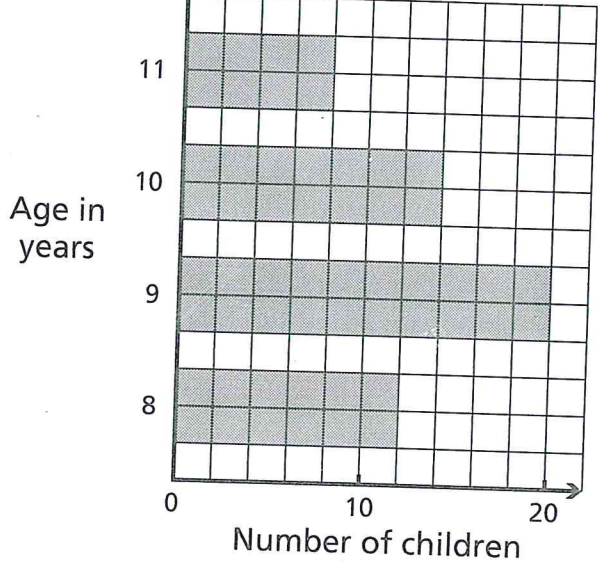
Graph A

Our school



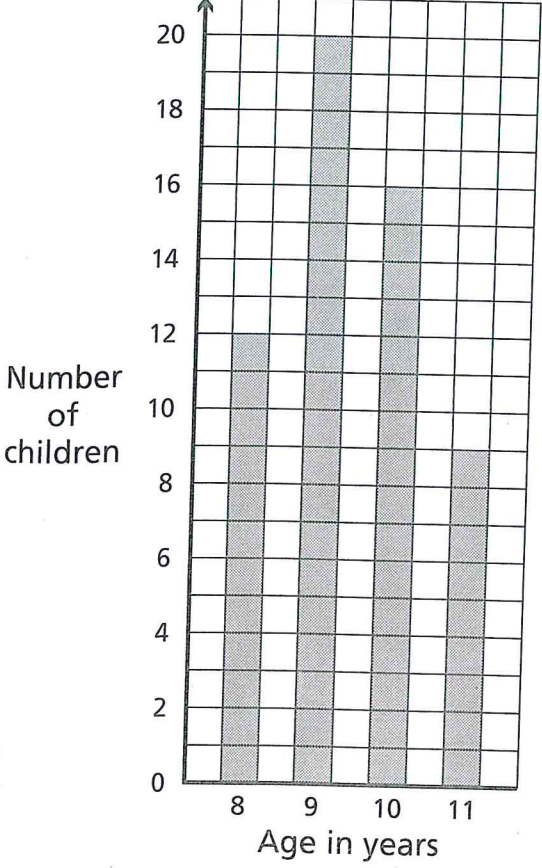
Graph B

Our school



Graph C

Our school



Graph D

Each  represents 2 children.
Our school

