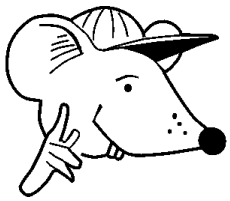
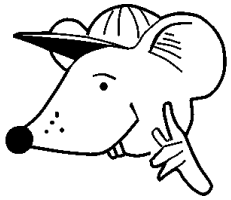
Back to Previous Menu



MATHEMATICS



N.S. Yr. 4 P.26

Solve problems concerning ratio and proportion

Equipment

Paper, pencil, squared paper.

MathSphere

Concepts

Children should be familiar with the following vocabulary:

In every, for every.

Children should be able to handle problems involving simple ratio and proportion and know that 2 in every 5 means 4 in every 10 etc.

They should be able to construct simple patterns in which, for example, every fourth square is coloured.

1. If Divvy watches three episodes of the favourite Maths Rats soap called 'Free Cake for all Rats' in each week, how many episodes does he watch in two weeks?

How many episodes does he watch in three weeks?

Divvy watching TV

2. A CD has twelve tracks on it. Complete the table to show the number of tracks on different numbers of CDs.

Number of CDs	Number of tracks
1	12
2	
3	
4	
5	

3. In the Whakky shop you can buy packs of three pencils and one rubber.
How many pencils and rubbers do you get in two packs?
How many pencils and rubbers do you get in four packs?

4. To get one Dippy Cat Food token you must buy three packets of flakes.
How many packets of flakes must you buy to get four Dippy Cat Food tokens?
How many tokens would you get if you bought 15 packets of flakes?

5. Each month John spends 6 days at home helping his parents.
How many days is he at home in two months?
Complete the table.

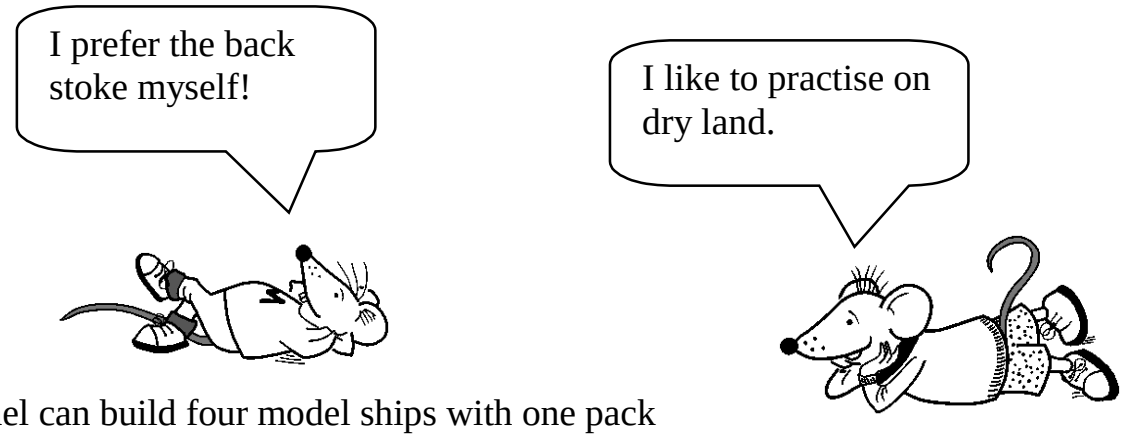
Number of months	Number of days at home
1	6
2	
3	
4	
5	

1. Pat likes to have lots of rose bushes in her garden.
For every three red rose bushes she plants, she also plants one white rose bush.
If she plants 21 red rose bushes, how many white rose bushes does she plant.

2. Mr Jones, the teacher, takes his children to the zoo. For every five tickets he buys, he gets one free.
Complete the table to show how many free tickets he gets.

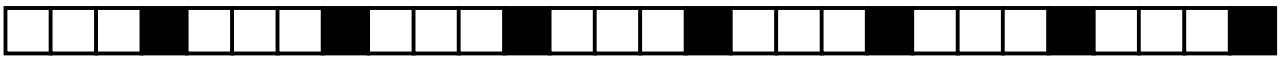
Number of tickets bought	Number of free tickets
5	1
10	
15	
20	
25	

3. Mrs Kingston, a swimming instructor, recommends that her pupils should swim one length crawl for every three lengths breast stroke.
Simon swims 30 lengths breast stroke. How many lengths crawl should he swim?



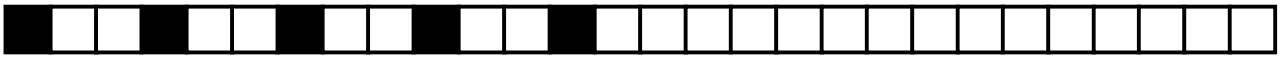
4. Michael can build four model ships with one pack of balsa wood. How many ships can he build with 6 packs of balsa wood?
How many packs of balsa wood does he need for 20 ships?

1. Here are some patterns. Can you continue colouring the patterns and then complete each sentence?

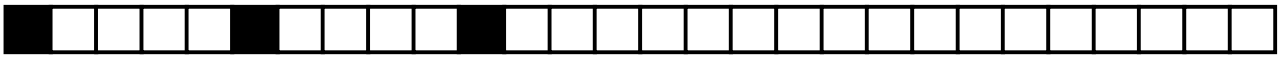


a. In this pattern **one** in every **four** squares is black.

b. In this pattern **one** in every _____ squares is black.



c. In this pattern **one** in every _____ squares is black.



d. In this pattern **one** in every _____ squares is black.

e. In this pattern **one** in every _____ seals is black.

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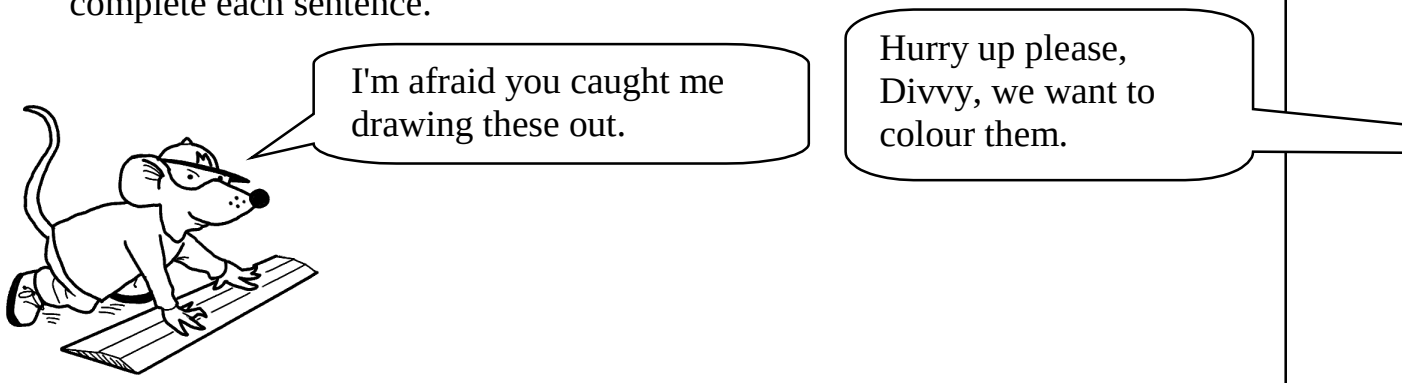
1. Here are some patterns. Can you continue colouring the patterns and then complete each sentence.

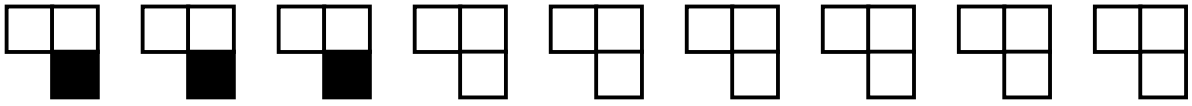


a. In this pattern **one** in every _____ rectangles is black.

b. In this pattern **one** in every _____ boats is black.

c. In this pattern **one** in every _____ horses is black.

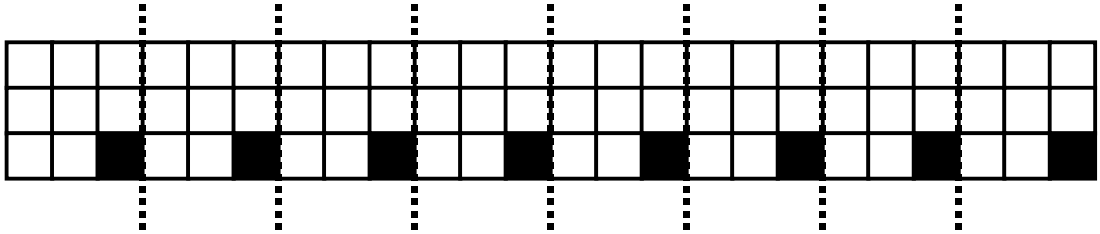
d. In this pattern **one** in every _____ planes is black.



e. In this pattern **one** in every _____ squares is black.

Here are some harder ones for all you geniuses out there. No need to colour these.

Hint: Divide the pattern into groups as in the first one.



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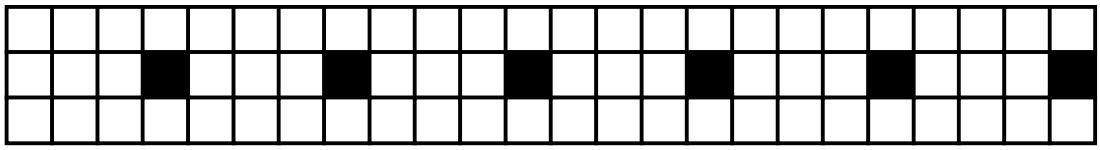
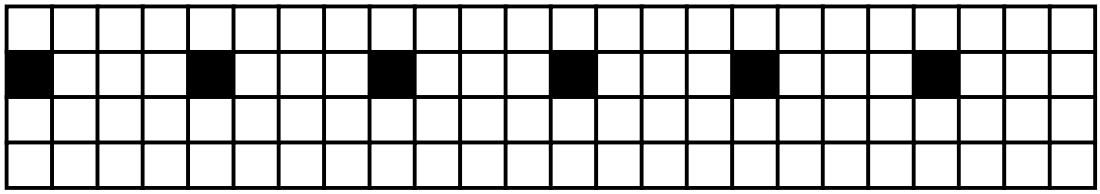
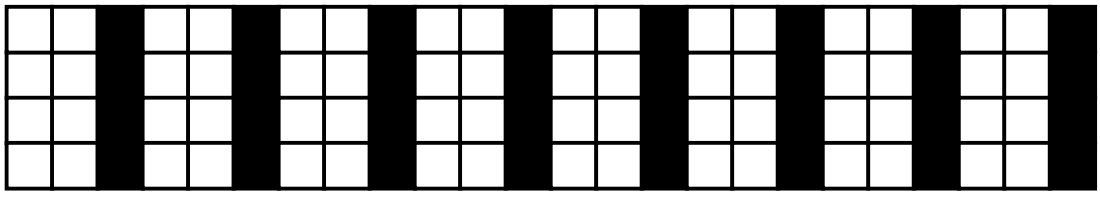


b. In this pattern **one** in every _____ squares is black.



c. In this pattern **one** in every _____ squares is black.



d. In this pattern **one** in every _____ squares is black.

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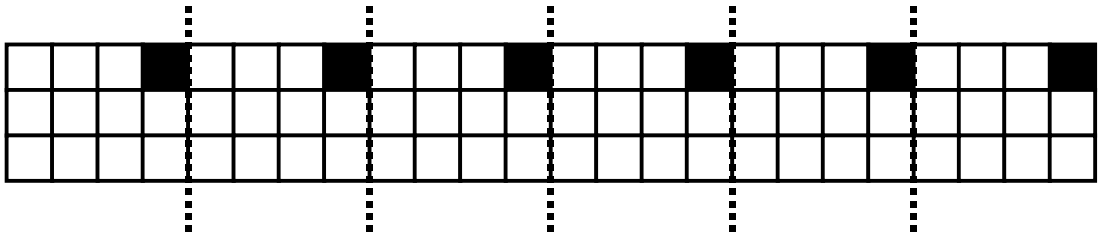
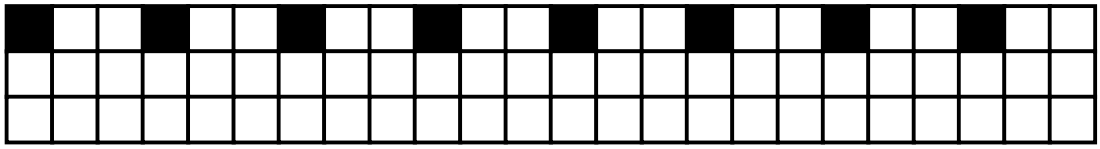
Here are some more harder ones for you geniuses.
No need to colour these.

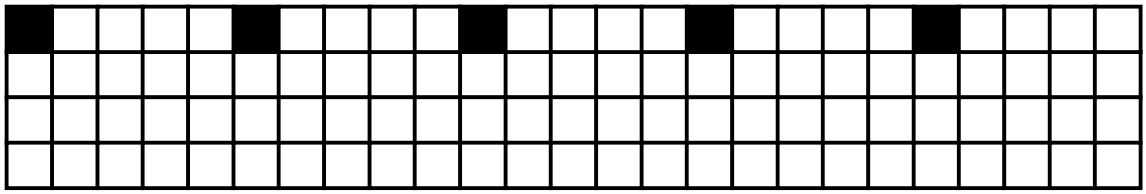
Hint: Don't forget to divide the pattern into groups as in the first one.



a. In this pattern **one** in every _____ squares is black.



b. In this pattern **one** in every _____ squares is black.



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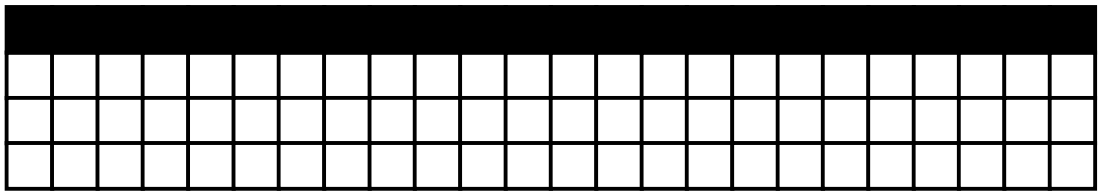

d. In this pattern **one** in every _____ squares is black.

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Here are some empty patterns. Make up your own designs and write sentences about them.

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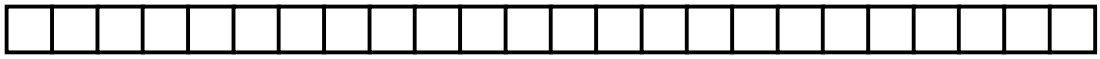
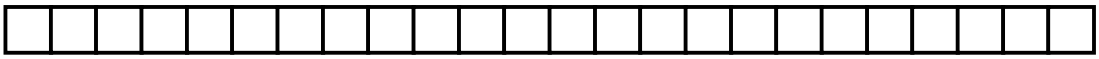
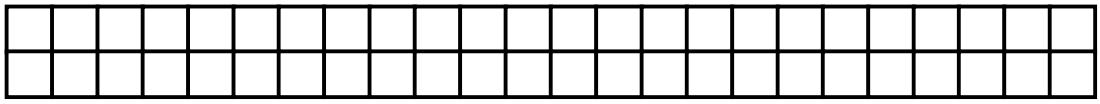
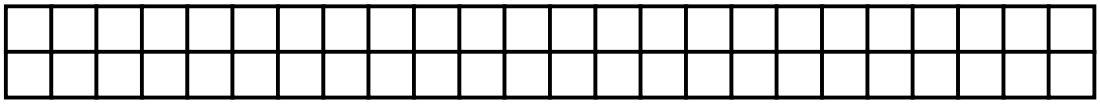
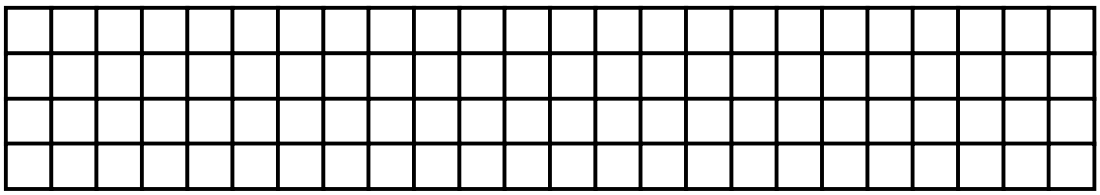
Here are some more empty patterns. Make up your own designs and write sentences about them.











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Answers

Page 3

1. 6, 9

2.
1	12
2	24
3	36
4	48
5	60

3. 6 pencils 2 rubbers, 12 pencils 4 rubbers

4. 12 packets, 5 tokens

5. 12 days

1	6
2	12
3	18
4	24
5	30

Page 4

1. 7

2.
5	1
10	2
15	3
20	4
25	5

3. 10

4. 24 ships, 5 packs

Page 5

1. a. one in every four
b. one in every two
c. one in every three
d. one in every five
e. one in every three

Page 6

1. a. one in every five
b. one in every two
c. one in every five
d. one in every six
e. one in every three

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Answers (Contd)

Page 7

1. **a.** one in every nine
b. one in every twelve
c. one in every sixteen
d. one in every three

Page 8

1. **a.** one in every twelve
b. one in every nine
c. one in every twenty
d. one in every four