



- 1)
 a) There are 30 parts out of 100 shaded.
 30% is shaded.
 70% is not shaded.
 b) There are 58 parts out of 100 shaded.
 58% is shaded.
 42% is not shaded.

- 2)
 a) 40%
 b) 40%
 c) 25%

3) Check that the children have drawn the bar models accurately.



1) Felix has mistakenly thought that the number of parts shaded equals the percentage represented. The bar is divided into 5 equal parts so each part represents 20%. 60% is shaded.



2) Answers may vary but children should recognise C as the odd one out because it represents 40% and A and B each represent 25%.

3) They are all correct because they all show how to make 75% in different ways.

1) Various answers are possible. Percentages for daffodils and snowflakes must total 39%. For example:
 21% and 18%
 14% and 25%
 22% and 17%



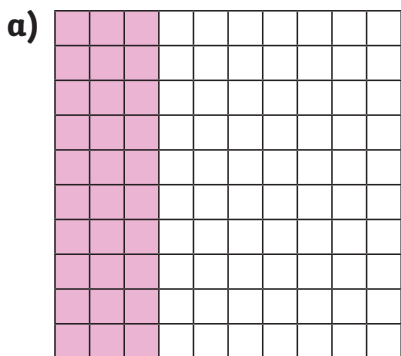
2) Elena 50%
 Emily 45%
 Jia 75%

3) Hari is incorrect. 50% is a bigger proportion because it is 50 parts out of 100. 20% is 20 parts out 100. His bar models are not proportional.

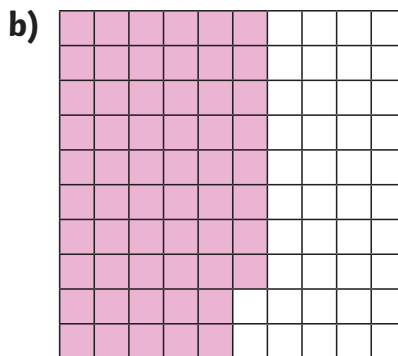


Understand Percentages

1) Complete the sentences for each hundred square.

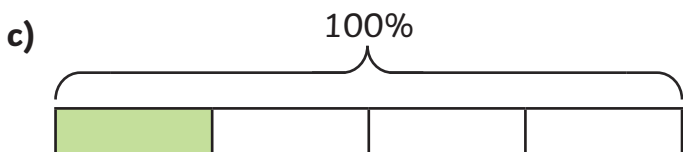
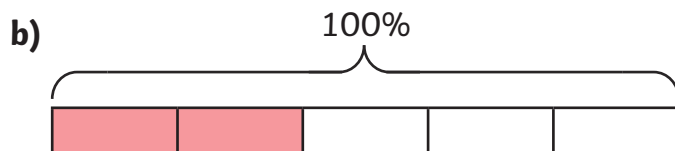
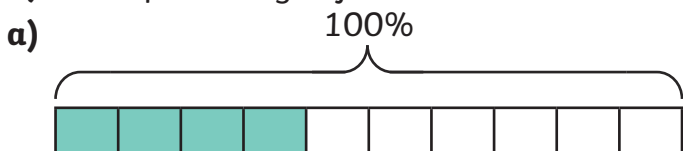


There are _____ parts out of 100 shaded.
_____ % is shaded.
_____ % is not shaded.



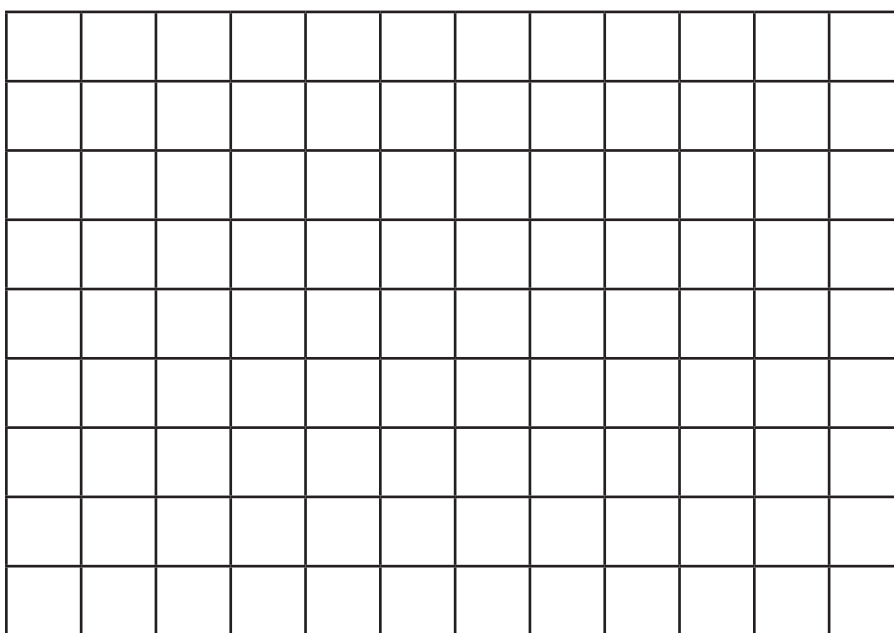
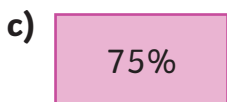
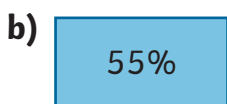
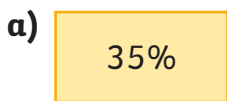
There are _____ parts out of 100 shaded.
_____ % is shaded.
_____ % is not shaded.

2) What percentage of each bar model has been shaded?



a) b) c)

3) Draw bar models to represent the percentages.



Understand Percentages

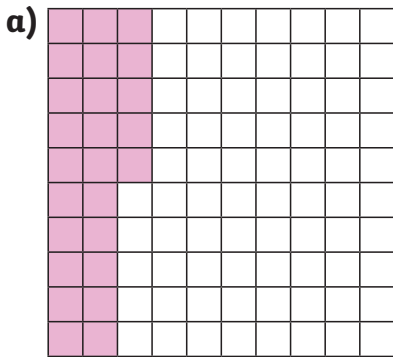


1) What mistake has Felix made? Explain your reasoning.



I have shaded in 3 parts which is 3%.

2) Which is the odd one out? Explain your reasoning.



3) Drew, Elena and Jia are exploring ways of making 75%. Who do you agree with? Explain your reasoning.

$75\% = 25\% \times 3$



$75\% = 50\% + 25\%$



$75\% = 100\% - 25\%$





Understand Percentages

1) Bartek is planting in a flower bed.



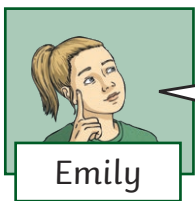
32 parts per 100 is for roses. 29% is for sunflowers.

Bartek is also planting daffodils and snowdrops. What percentage of the flower bed could be used for each? Give three different possibilities.

2) Use the clues to work out what percentage each child is thinking of.



My percentage is equivalent to 2 and a half parts shaded out of 5 equal parts on a bar model.

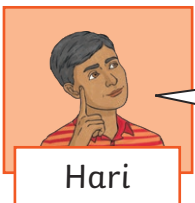


My percentage is equivalent to $15\% \times 3$.

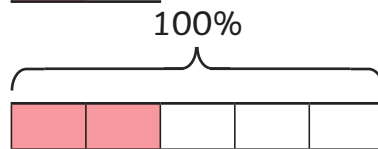
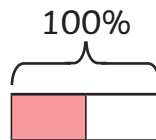


My percentage is equivalent to 3 parts out of 4 equal parts shaded on a bar model.

3) Do you agree with Hari's statement? Explain your reasoning.



These bar models show that 20% is equivalent to 50%.



Diving into Mastery

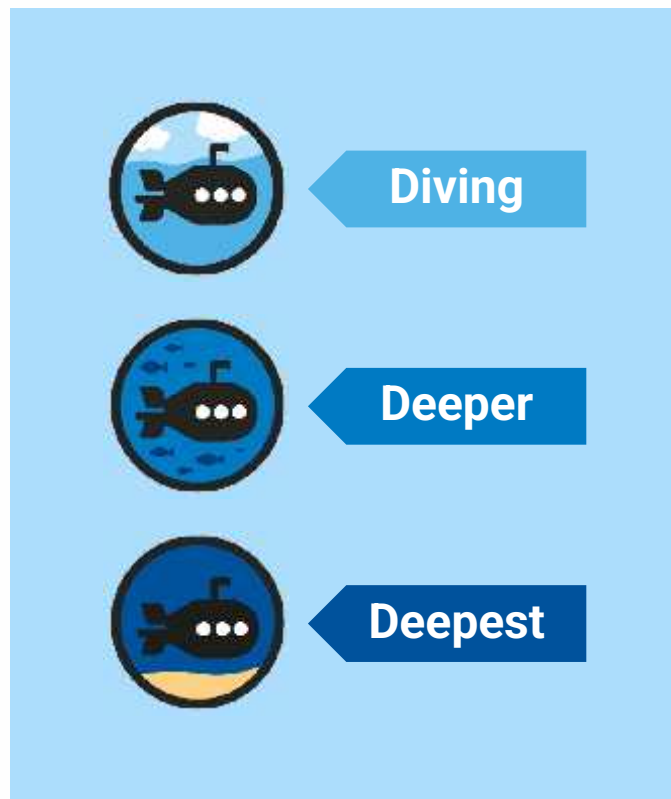


Understand Percentages



Diving into Mastery Guidance for Educators

Each activity sheet is split into three sections, diving, deeper and deepest, which are represented by the following icons:



These carefully designed activities take your children through a learning journey, initially ensuring they are fluent with the key concept being taught; then applying this to a range of reasoning and problem-solving activities.

These sheets might not necessarily be used in a linear way. Some children might begin at the 'Deeper' section and in fact, others may 'dive straight in' to the 'Deepest' section if they have already mastered the skill and are applying this to show their depth of understanding.

National Curriculum Aim

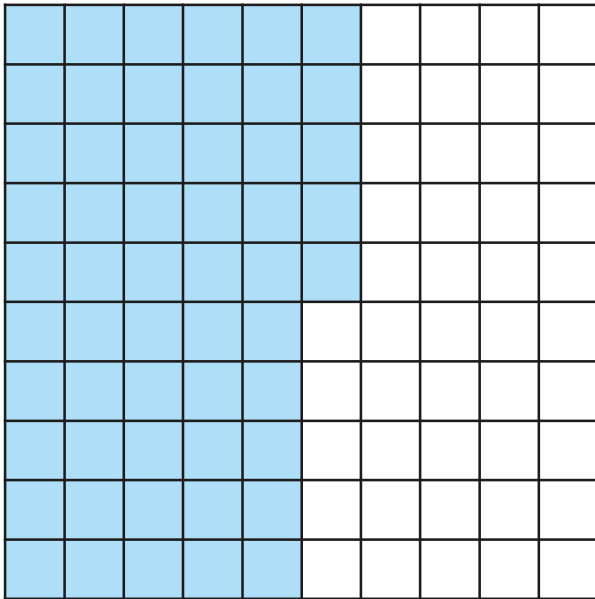
- Recall and use equivalences between simple fractions, decimals and percentages, including in different contexts

Understand Percentages

Diving



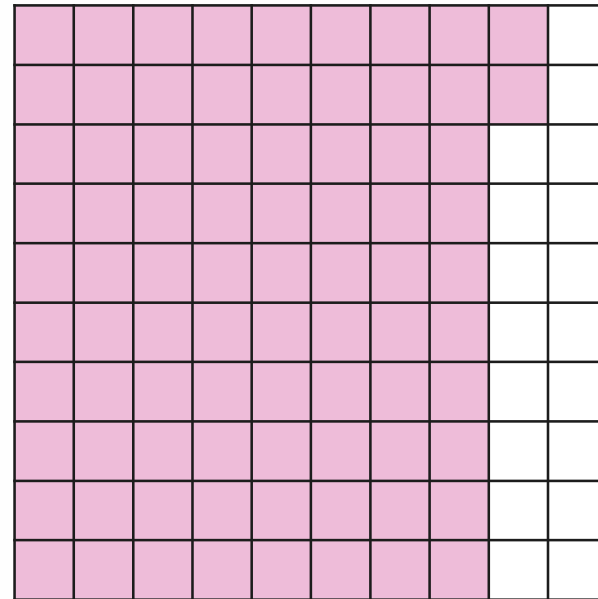
Complete the sentences for each hundred square.



There are 55 parts out of 100 shaded.

55 % is shaded.

45 % is not shaded



There are 82 parts out of 100 shaded.

82 % is shaded.

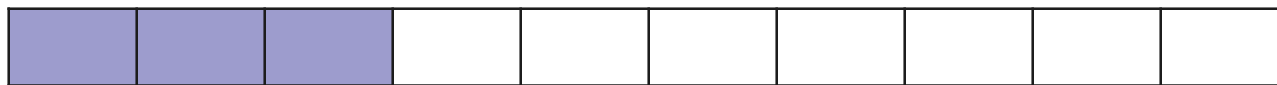
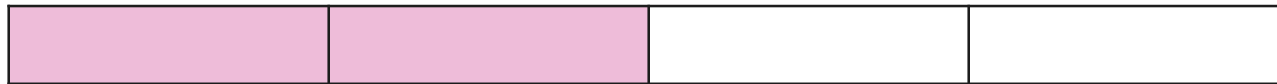
18 % is not shaded

Understand Percentages

Diving



What percentage of each bar model has been shaded?

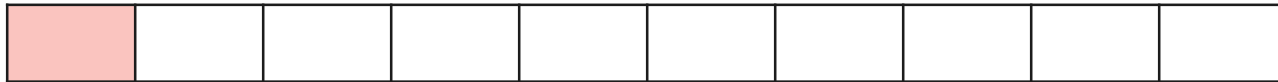


Understand Percentages

Deeper



What mistake has Drew made? Explain your reasoning.



I have shaded in one part which is the same as 1%.

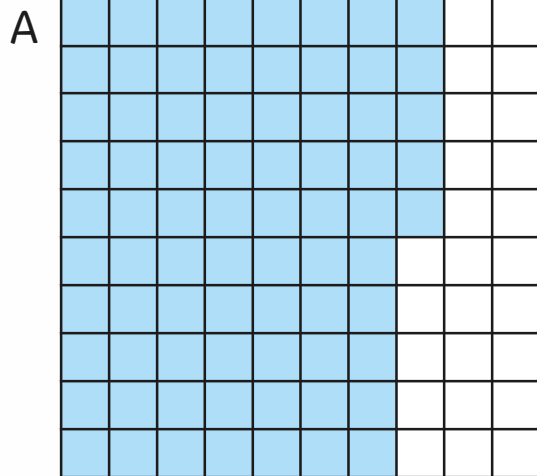
Drew mistakenly thought that the number of parts shaded equals the percentage represented. The bar is divided into 10 equal parts so each part represents 10%. 10% is shaded.

Understand Percentages

Deeper



Which is the odd one out? Explain your reasoning.



**B is the odd one out because it shows 8 parts out of 10 which is 80%.
Both A and C represent 75%.**

Understand Percentages

Deepest

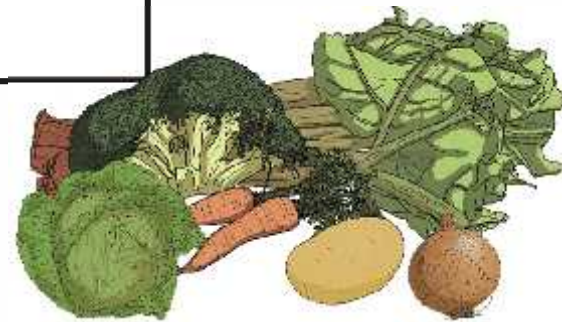


Jia is planting a vegetable patch and working out the percentages of each vegetable she can plant.



Jia

27 parts out of 100 is for carrots.
47% is for potatoes.



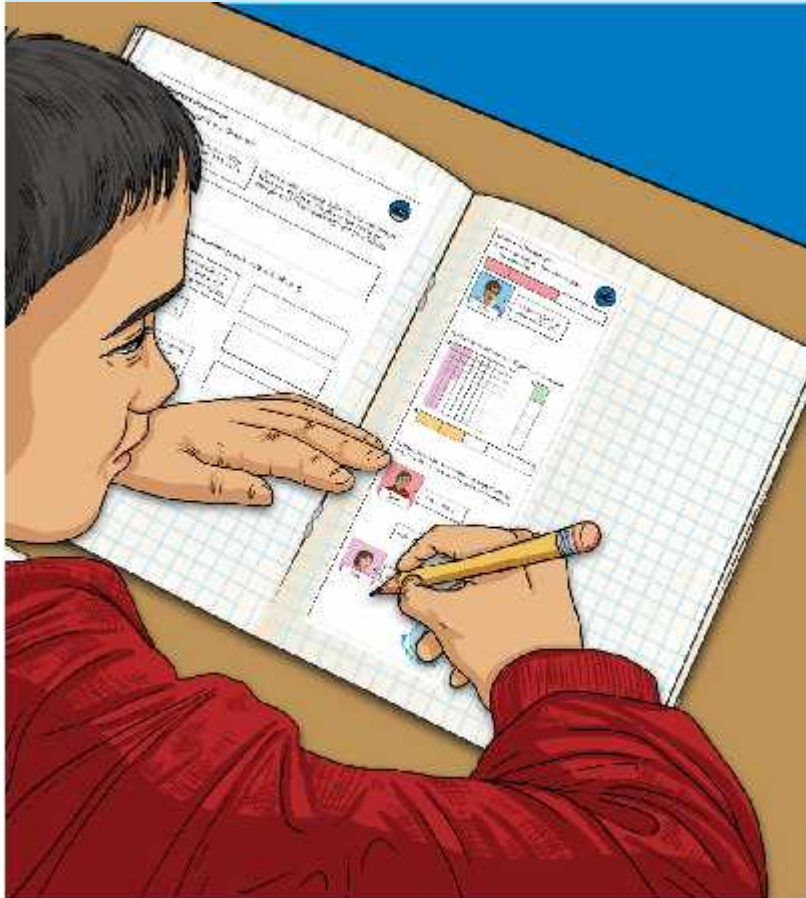
Jia is also planting broccoli and rhubarb. What percentage of the vegetable patch could be used for each? Find three possibilities.

Various possible answers.

**Percentages for broccoli and rhubarb must total 26%. For example:
11% and 15%, 22% and 4%, 18% and 8%**

Understand Percentages

Dive in by completing your own activity!



Understand Percentages

1) Complete the sentences for each hundred square.

a) There are _____ parts out of 100 shaded. _____ is shaded. _____ is not shaded.

b) There are _____ parts out of 100 shaded. _____ is shaded. _____ is not shaded.

2) Write down the percentage of each hundred square that is shaded.

a) _____% _____%

b) _____% _____%

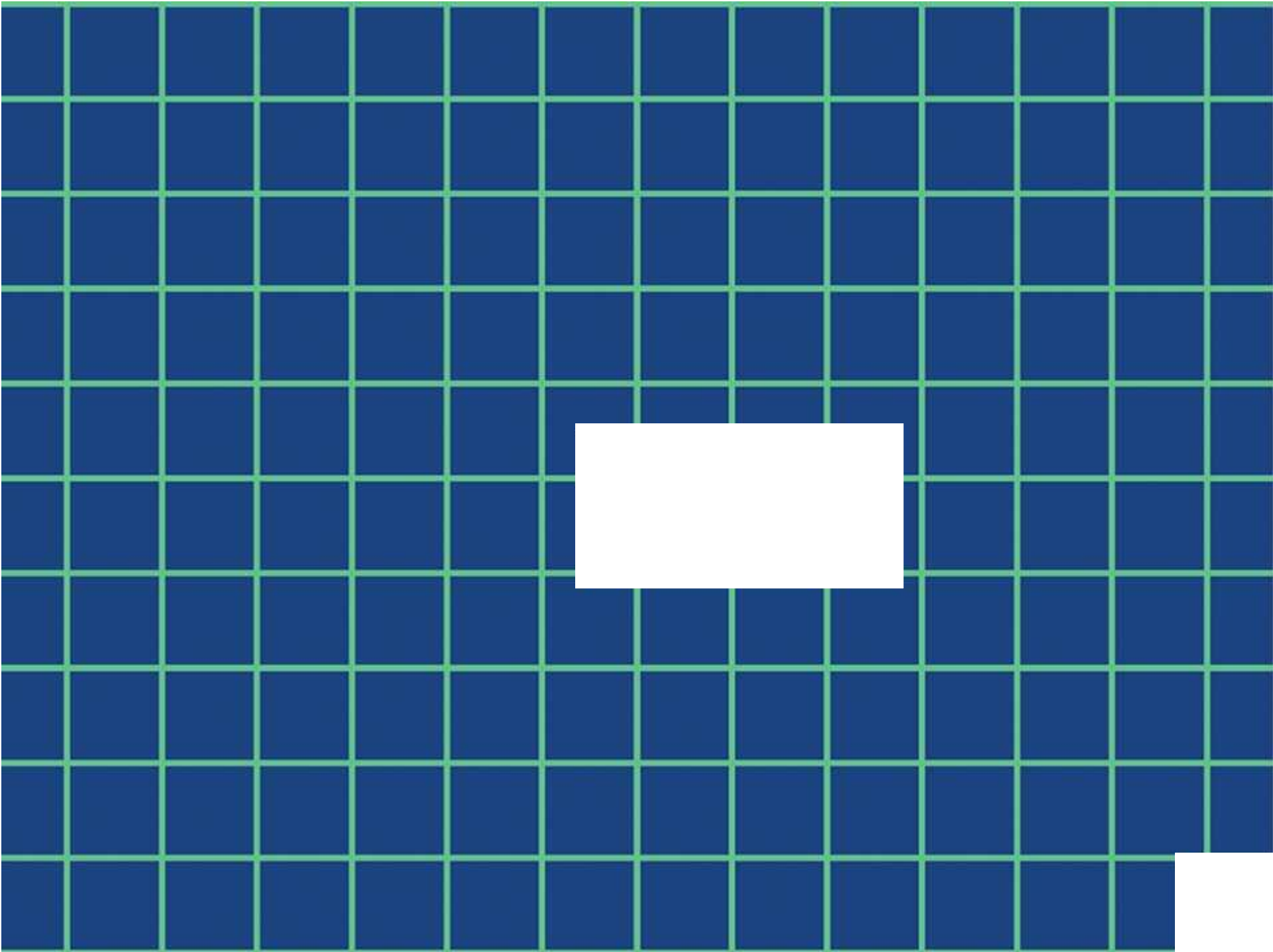
c) _____% a) _____ b) _____ c) _____

3) Draw the model to represent the percentages.

a) 15%

b) 25%

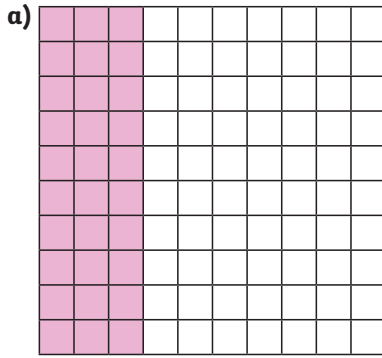
c) 75%



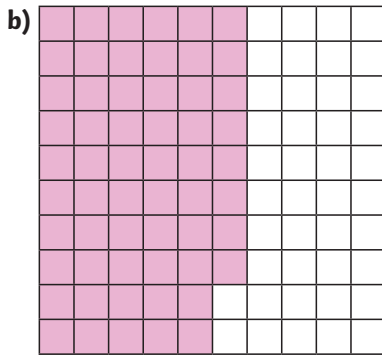
Understand Percentages



1) Complete the sentences for each hundred square.

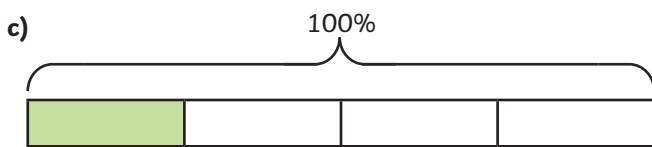
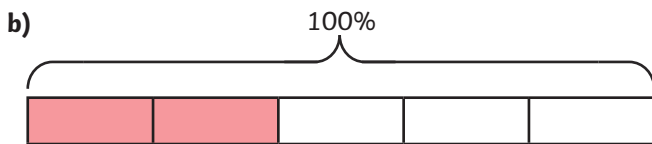
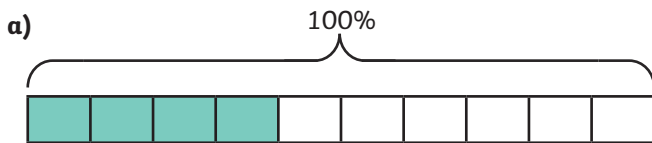


There are ____ parts out of 100 shaded.
____ % is shaded.
____ % is not shaded.

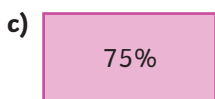
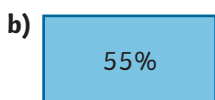
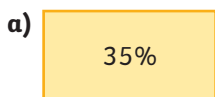


There are ____ parts out of 100 shaded.
____ % is shaded.
____ % is not shaded.

2) What percentage of each bar model has been shaded?



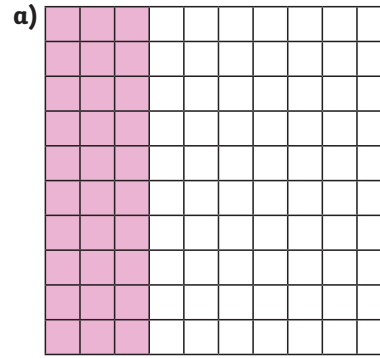
3) Draw bar models to represent the percentages.



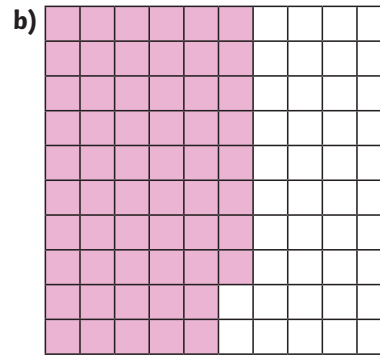
Understand Percentages



1) Complete the sentences for each hundred square.

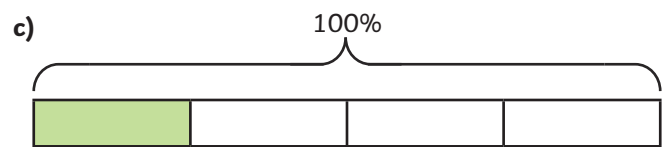
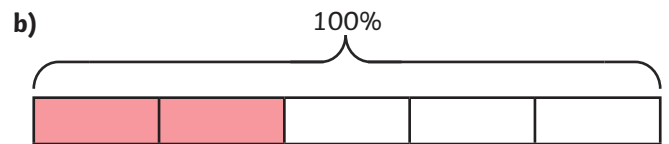
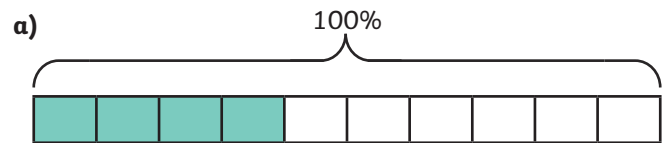


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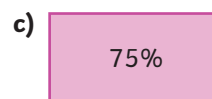
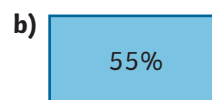
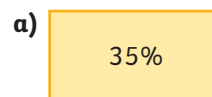


There are ____ parts out of 100 shaded.
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2) What percentage of each bar model has been shaded?



3) Draw bar models to represent the percentages.



Understand Percentages

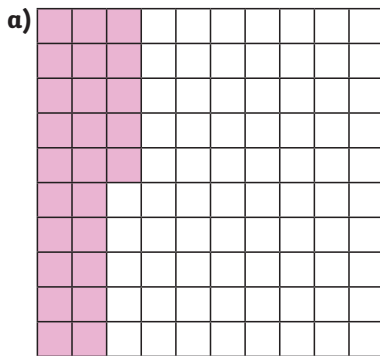


1) What mistake has Felix made? Explain your reasoning.



I have shaded in 3 parts which is 3%.

2) Which is the odd one out? Explain your reasoning.



3) Drew, Elena and Jia are exploring ways of making 75%. Who do you agree with? Explain your reasoning.



$$75\% = 25\% \times 3$$



$$75\% = 50\% + 25\%$$



$$75\% = 100\% - 25\%$$

Understand Percentages

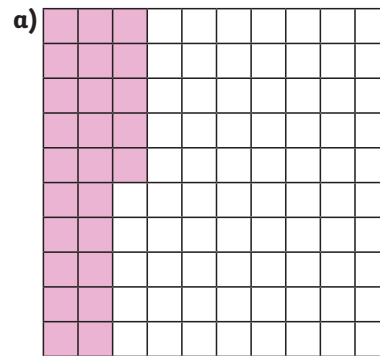


1) What mistake has Felix made? Explain your reasoning.



I have shaded in 3 parts which is 3%.

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$$75\% = 25\% \times 3$$



$$75\% = 50\% + 25\%$$



$$75\% = 100\% - 25\%$$

Understand Percentages



1) Bartek is planting in a flower bed.



32 parts per 100 is for roses.
29% is for sunflowers.

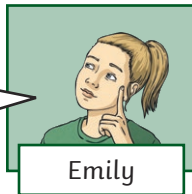
Bartek is also planting daffodils and snowdrops.
What percentage of the flower bed could be used for each? Give three different possibilities.

2) Use the clues to work out what percentage each child is thinking of.



My percentage is equivalent to 2 and a half parts shaded out of 5 equal parts on a bar model.

My percentage is equivalent to $15\% \times 3$.

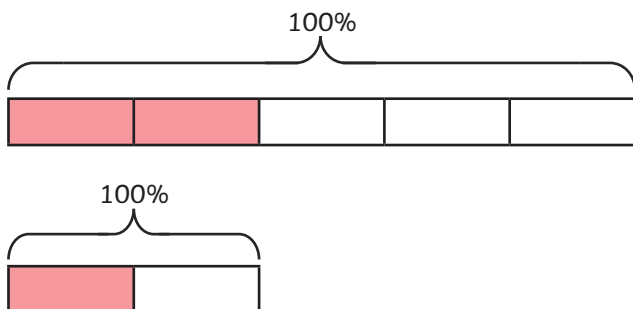


My percentage is equivalent to 3 parts out of 4 equal parts shaded on a bar model.

3) Do you agree with Hari's statement? Explain your reasoning.



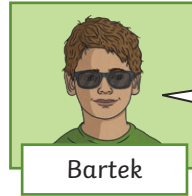
These bar models show that 20% is equivalent to 50%.



Understand Percentages



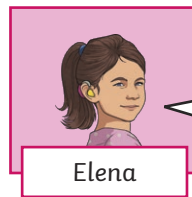
1) Bartek is planting in a flower bed.



32 parts per 100 is for roses.
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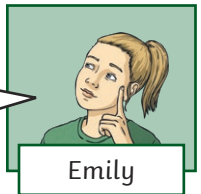
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What percentage of the flower bed could be used for each? Give three different possibilities.

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My percentage is equivalent to 3 parts out of 4 equal parts shaded on a bar model.

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These bar models show that 20% is equivalent to 50%.

