

# NCETM: KS3 Multiplicative Reasoning Project

Slides for LESSON 1a (including two Pre-tasks)

## Lesson 1a, Pre-task 1: Sharing out a marshmallow tube



The picture below represents a marshmallow tube.

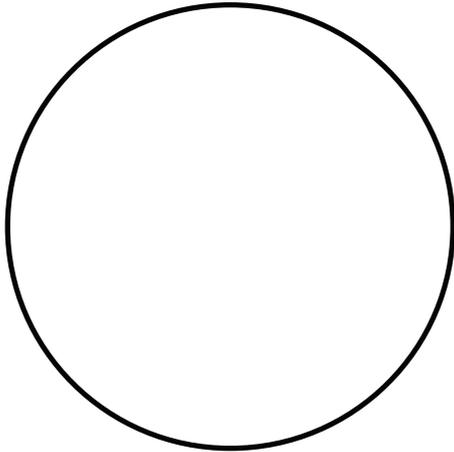
Show on the picture where you would cut the tube to share it between **5 people**.

Try to be as fair as possible.

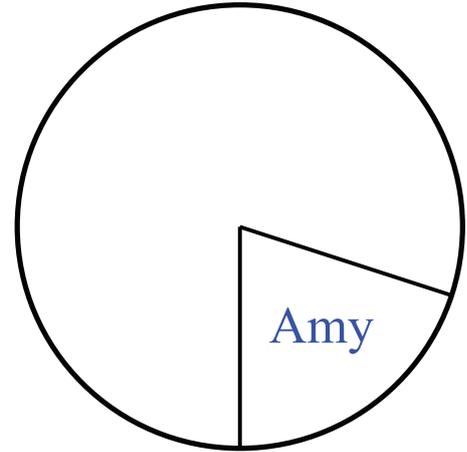


**Lesson 1a, Pre-task 2: A slice of cake**

This is a cake:



Amy cuts herself a slice.

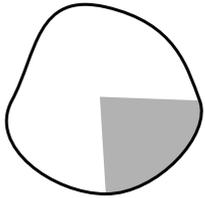


Roughly how big is Amy's slice of cake? .....

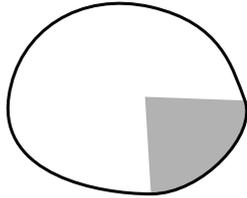
Explain: .....

## Lesson 1a, Stage 1:

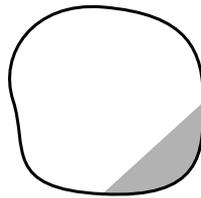
Look at these six shapes. Roughly how much of each shape is grey?



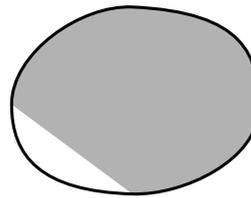
A



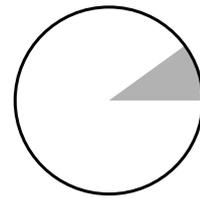
B



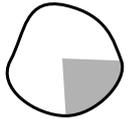
C



D



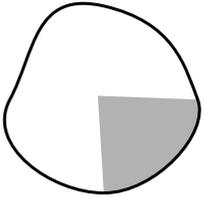
E



F

## Stage 1:

Look at these six shapes. Roughly how much of each shape is grey?



A

B

C

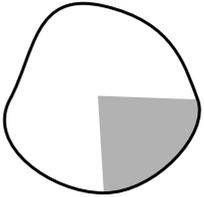
D

E

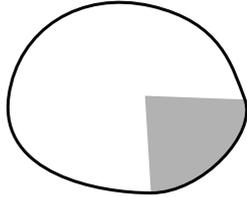
F

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A



B

C

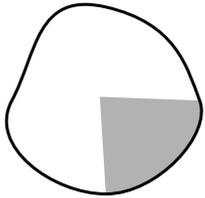
D

E

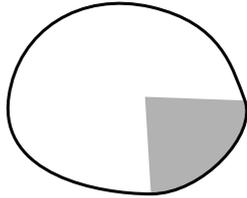
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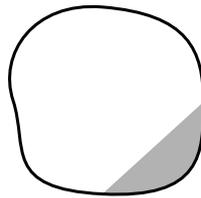
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A



B



C

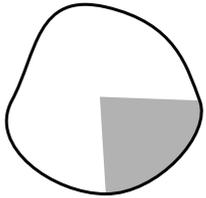
D

E

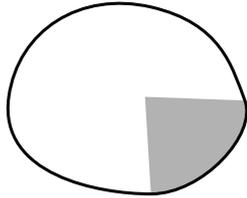
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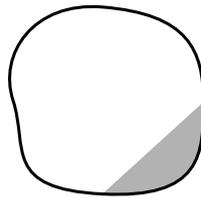
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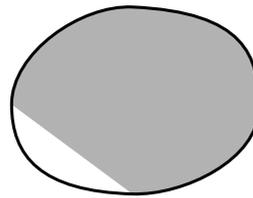
A



B



C



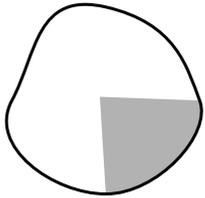
D

E

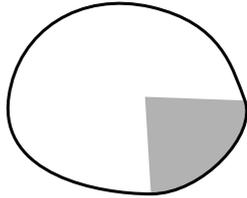
F

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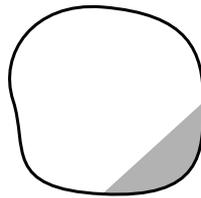
Look at these six shapes. Roughly how much of each shape is grey?



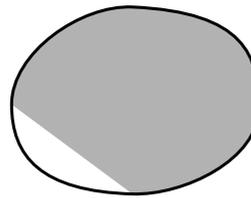
A



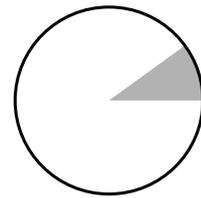
B



C



D

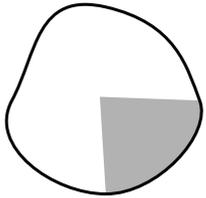


E

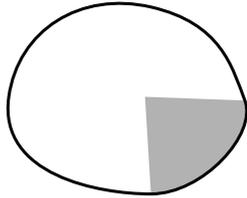
F

## Stage 1:

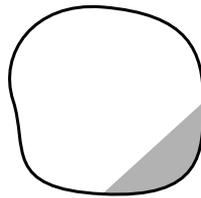
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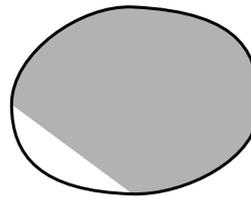
A



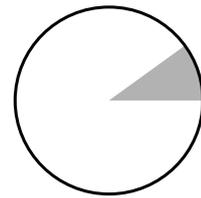
B



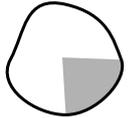
C



D



E

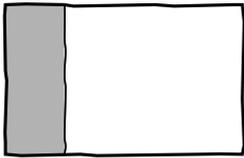


F

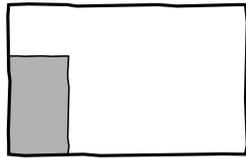
## Stage 2:

These drawings show the same rectangle.

Roughly what fraction of the rectangle has been coloured grey in each case?



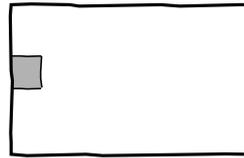
A



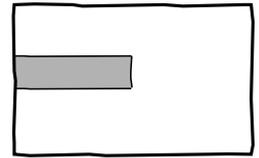
B



C



D

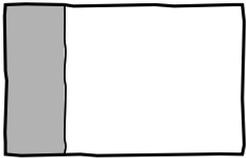


E

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A

B

C

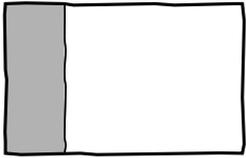
D

E

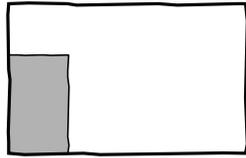
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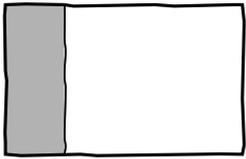
D

E

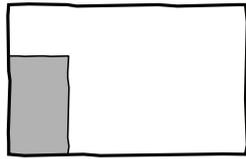
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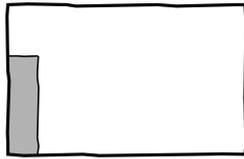
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A



B



C

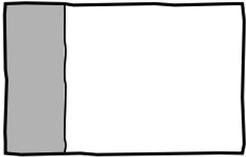
D

E

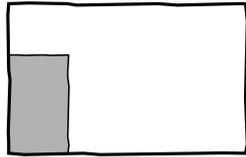
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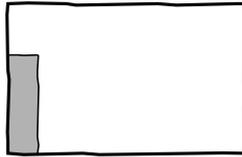
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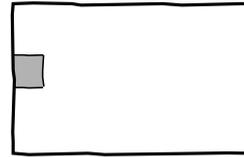
A



B



C



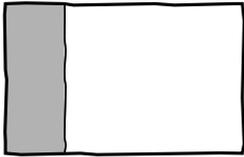
D

E

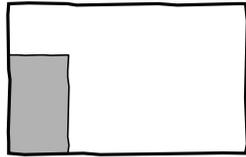
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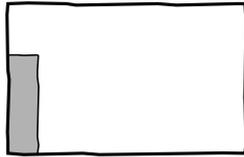
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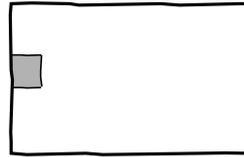
A



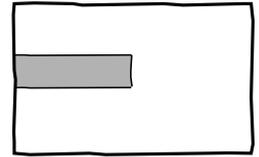
B



C



D



E

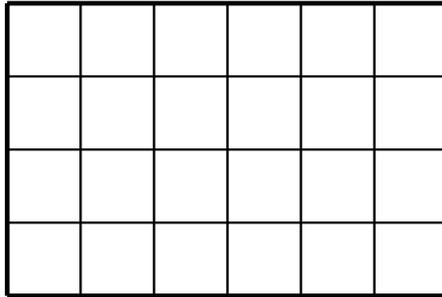
### Stage 3:

Shade  $\frac{3}{8}$  of each rectangle. Try it in different ways.

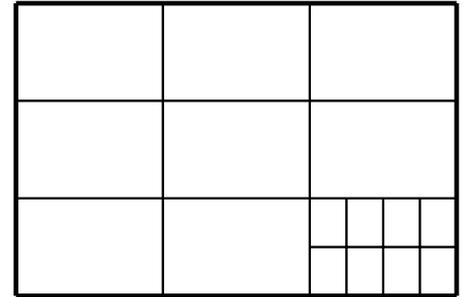
Use the construction lines to help you.



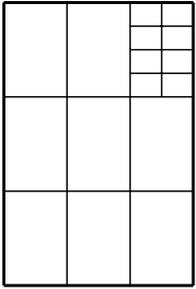
X



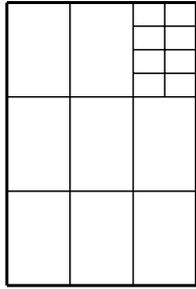
Y



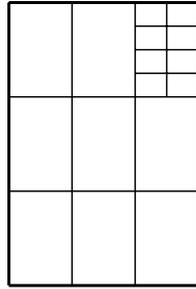
Z



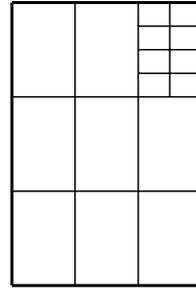
Z



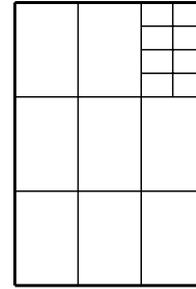
Z



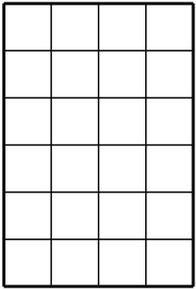
Z



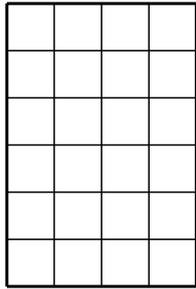
Z



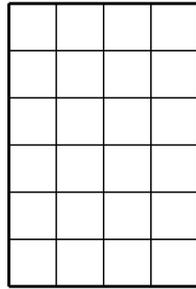
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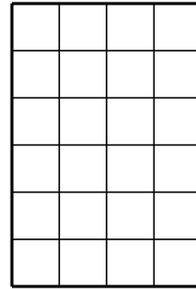
Y



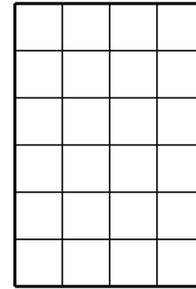
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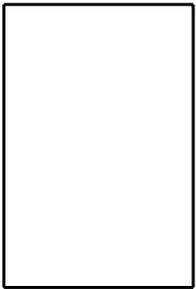
Y



Y



Y



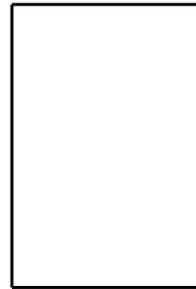
X



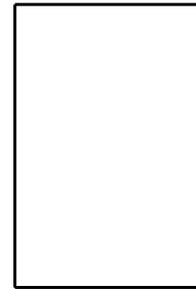
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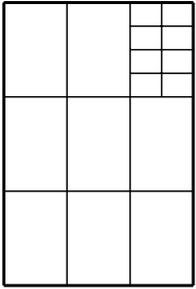
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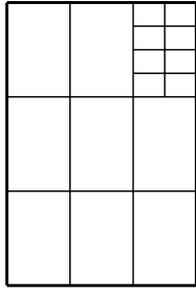
X



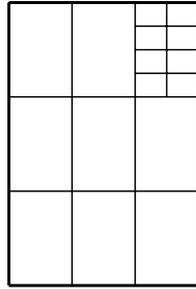
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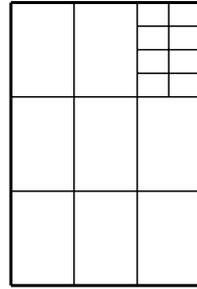
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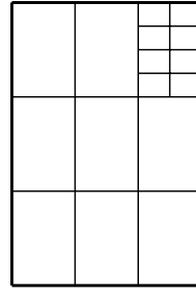
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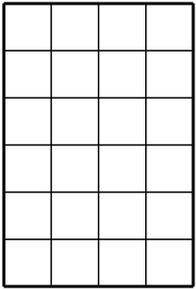
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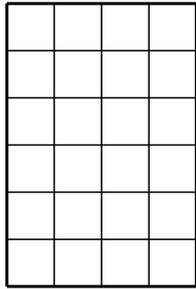
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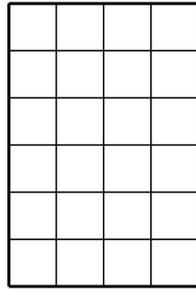
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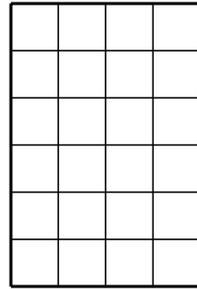
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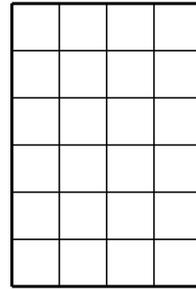
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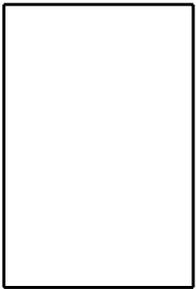
Y



Y



Y



X



X



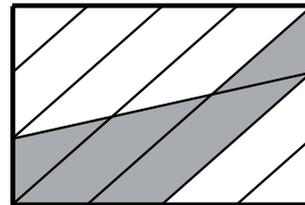
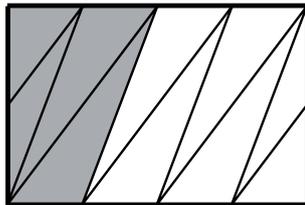
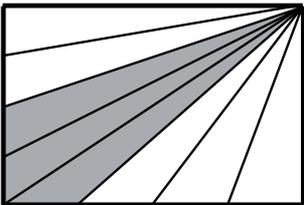
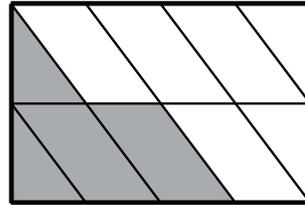
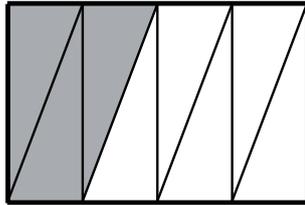
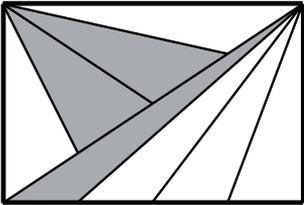
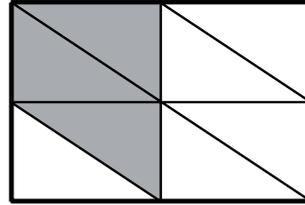
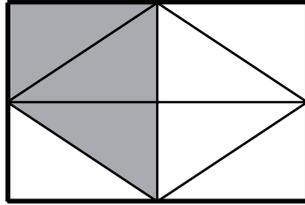
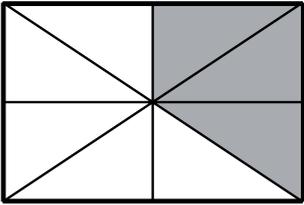
X



X



X







### Stage 4 Extension:

For each rectangle, find the size of each grey region (as a fraction of the rectangle) and find the total amount of grey.

