

Equivalent Proportions

STUDENT BOOKLET

Dear Nikki,

Here is our method:

Lemon Meringue

First, add together the

$$\text{e.g.: } 5 + 2 = 7$$

4 Canary : 7 Eggshell

Then, divide your desired
this number.

$$\text{e.g.: } 4 \text{ litres} \div 7 = 0.5714$$

Then, multiply each ratio

Final answer:

$$0.5714 \times 5 = 2.857 \approx 3$$

2 ml of Surf

3 Canary : 2 Surf

Blush pink

? Red : ? White

Sailaway blue

2 Moody blue : 5 White

3 ml of Bubblegum

1 ml

1 ml

1 ml

1 ml

1 ml

5 ml of Purple Rain

By Caroline Yoon, Nikki Sullivan and Anne Patel

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PO Box 3237
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Warm-up task

What is this painting worth?



View the Rothko powerpoint to find out how much someone paid for it.



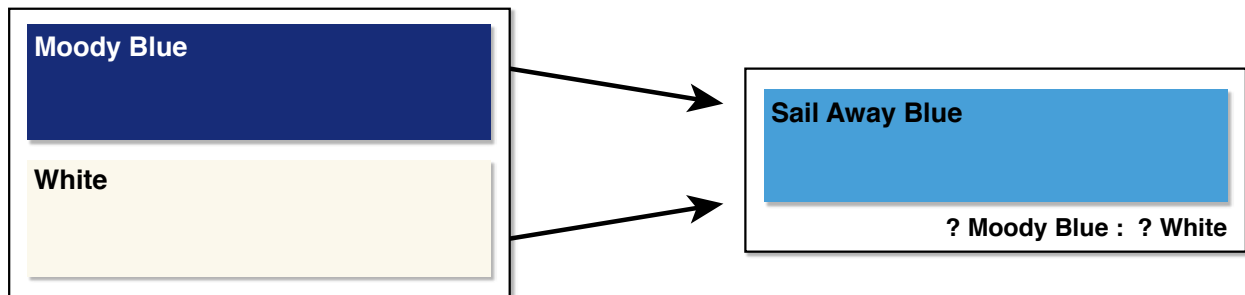
15-year-old Nikki Lim loves Rothko's paintings, but can't afford to buy one.

Being an enterprising and artistic teenager, she decides to create one in a similar style by painting large blocks of colour directly onto her bedroom wall.

Nikki finds a can of Moody Blue paint and a can of White paint in her garage.

She decides to mix Moody Blue and White to make a light shade of blue called Sail Away Blue, which she saw in a catalogue but cannot afford to buy.

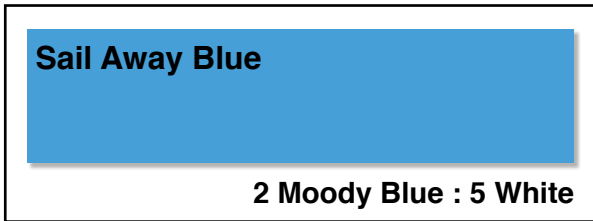
1. How much *Moody Blue* and *White* paint do you think go into *Sail Away Blue*? Discuss with your group and write down your group's prediction as a ratio *Moody Blue* paint : *White* paint



- (a) Albert guessed **half** *Moody Blue* and **half** *White*. Write this as a ratio.
- (b) Hilary guessed $\frac{2}{3}$ *Moody Blue* and $\frac{1}{3}$ *White*. Write this as a ratio.
- (c) Liam guessed **60%** *Moody Blue* and **40%** *White*. Write this as a ratio.

Task 1: The Rothko problem

Nikki needs to make 4 litres of *Sail Away Blue* paint for her Rothko mural.



Nikki needs your help!

Create a method for figuring out how much *Moody Blue* paint and *White* paint Nikki needs to mix together to make 4 litres of *Sail Away Blue*.

Write a letter to Nikki, describing your method. Explain how she can use your method to make **any amount** of *Sail Away Blue* in the future. Also, describe how Nikki can adapt your method to make any amount of any other colour with different proportions, in case she changes her mind.