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PSLE Primary School Math Models Guide

Math Models Guide Demo

Getting ready for your PSLE math exam can feel like a big deal, especially when you bump into a question you've never seen before. But don't worry!

- The goal here is to make sure you've seen every type of question before you go into the exam.
- Once you're confident, go for speed. Time yourself. Aim to finish 1 question in 2 minutes.
- You have a lot of space on the exam paper. Draw as many models as you want to make it clearer for yourself.
- Another tip, is draw your models in pencil instead of a pen because you may have to erase and redraw.

There are only about 8 types of questions. Here, we focus on models type questions.

Steps:

1. Start by working through the Guide Document with the solutions at hand. Do your best to solve the problems on your own first before looking at the answers to see if you're correct.
2. Next, challenge yourself with the Guide Document without the solutions. This is a great way to test your understanding.
3. Once you're ready, put your skills to the test with a timed trial.

Enjoy the journey, and remember, practice makes perfect!

If you're exploring with the free trial just start with step 1.

Borrow - More than Questions

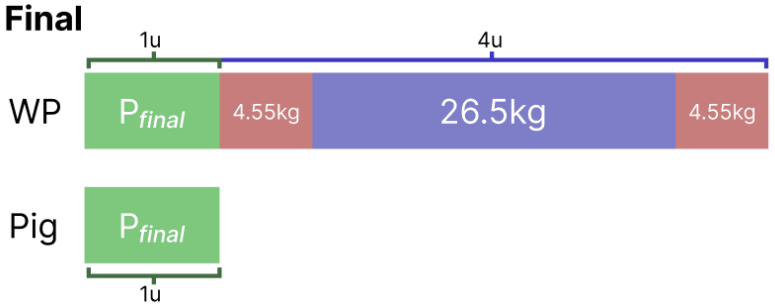
1. Winnie the Pooh has 26.5 kg more honey than Piglet. After 4.55 kg of honey was removed from Piglet and placed into Winnie the Pooh's pot, the mass of honey in Winnie the Pooh's pot was five times the mass of honey in Piglet's pot. What was the mass of honey in Piglet's pot in the end?

Face the question **part by part.**
At the **start** how did it look like?

Start

In the **end** how did it look like?
P_{final} + 4.55kg is the same amount as **P_{start}**

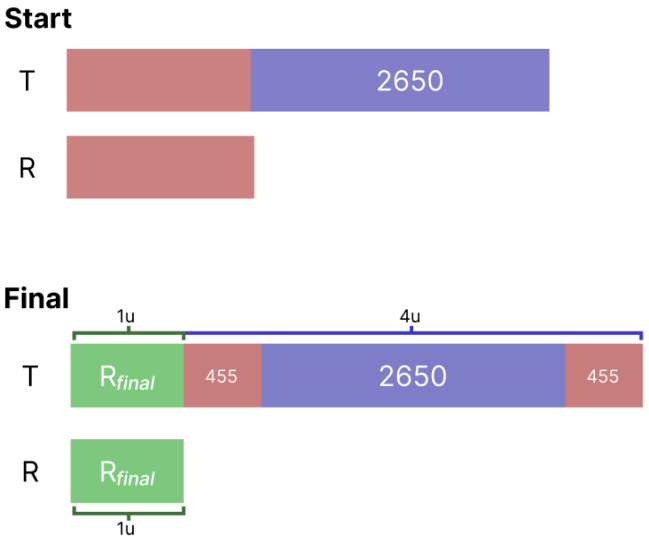
Final



4u = 4.55+26.5+4.55 = 35.60
P_{final} = u = 35.60÷4=8.90 kg (Ans)

Let’s try the exact same question but with different numbers. Try to do it from memory, don’t look at the answers.

2. Tigger has 2650 more bouncing balls than Roo. After 455 bouncing balls were borrowed from Roo's collection and added to Tigger's, Tigger's collection was five times more than Roo's collection.
    a. How many bouncing balls did Roo have in the end?
    b. How many bouncing balls did Tigger have in the end?



Let’s always start with the end in mind. Put what you are trying to at the top so you don’t end up finding something else.

a)

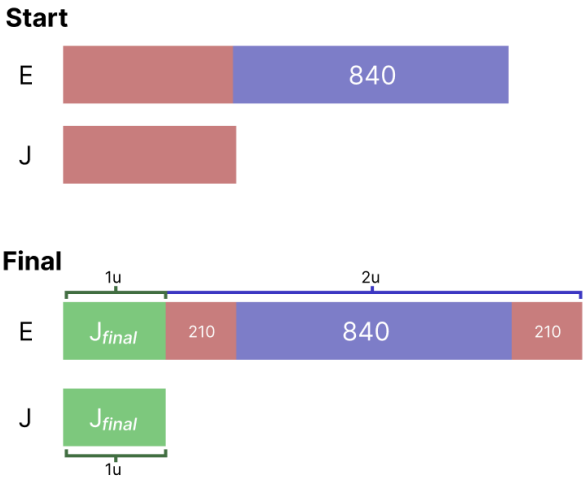
Roo = u = ?
4u = 455+2650+455 = 3560
Roo = u = 3560÷4=890 (Ans)

b)

Tigger = 5u = ?
Tigger = 5u = 4450 (Ans)

Now let’s adjust more numbers, but it’s the same question.

3. Ed Sheeran has 840 more concert tickets than Justin Bieber. After Justin gives away 210 of his tickets to Ed, Ed's stack of tickets is three times more than Justin's remaining stack. How many tickets does Justin have left?



Justin = u = ?
2u = 210 + 840 + 210 = 1260
Justin = u = 1260 ÷ 2 = 630 (Ans)

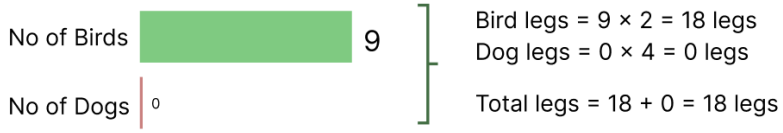
Trial and Error type

Let's try a different type of Question. People mostly use trial and error so let's call it that. But we'll use a different method to make things simpler.

4. On a farm, there are 9 animals consisting of birds and dogs. There are a total of 26 legs. Find how many birds and dogs are there.

If all are birds:

9 x 2 = 18 legs



If we switch 1 bird to a dog, number of legs:

8 x 2 + 1 x 4 = 20 legs => ***legs increased by 2***.

So how many more legs do we need? We need 26 legs:

26 legs - 18 legs = 8 legs

Each switch increases the legs by 2 so:

8 ÷ 2 = 4 => Switch 4 out of 9 birds to dogs.

Answer:

4 dogs.

9 animals - 4 dogs = 5 birds.

In the full version there will be more practice, but let's try a harder but similar type of question for now:

5. On Mother's Day, as the pilot of a plane with 1098 passengers, you give 5 snack packs to each woman and 3 snack packs to each man. By the end of the day, women receive 2058 more snack packs than men. How many women are on the flight?

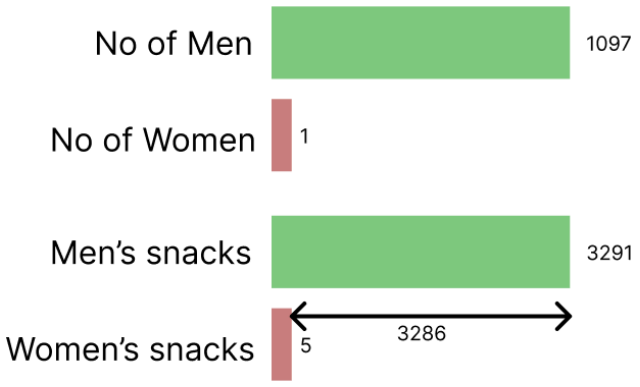
Let's guess. If all on the plane are men:

1098 × 3 = 3294 snacks for men and 0 snacks for women

So:

Men had 3294 more snacks than women.

Let's see how it changes if we have 1 man less and 1 more woman.



If we have 1 less man and 1 more woman:

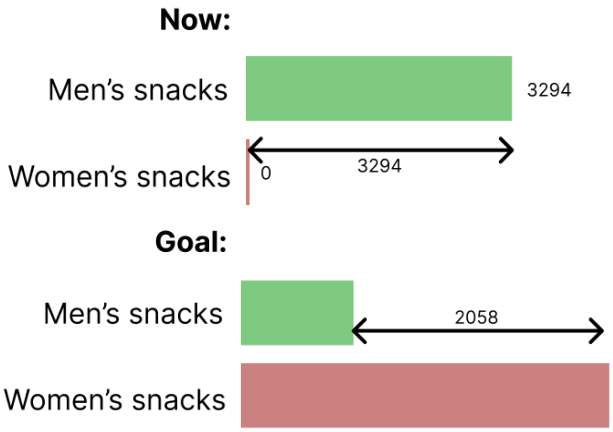
1097 × 3 = 3291 snacks for men and 5 snacks for women

After 1 less man, men have how many more snacks than women?

3291 - 5 = 3286 more snacks

**change in snack difference after 1 less man:

3294 - 3286 = 8 snacks



Goal: Now ***men*** have 3294 more snacks, we need ***women*** to have 2058 more snacks than men = > so we need to make the snack difference change by:

3294 + 2058 = 5352

If 1 less man and 1 more woman => difference changes by 8 =>
Number of women we need to have instead of men:

5352 ÷ 8 = 669 women

Number of men = 1098 - 669 = 429 men.

In these 5 examples, we've seen that while problem sums might appear challenging at first glance, they often follow similar patterns.

- With practice, you'll start to recognize these patterns and start to find it easy.
- In the **Full Version**, you'll discover even harder variations of these questions, providing ample practice to help you master the concepts and approach problem sums with confidence.

Here is another question from the full version; see if you can solve it:

6. Imagine you, Elon Musk, are building a rocket to go to Mars. The parts cost $927 all together. You used 3 times as many solar panels as rocket engines. Each solar panel costs $35 less than each rocket engine. The total cost of all the rocket engines is $9 more than the solar panels.
    a. How much did the solar panels cost?
    b. How many solar panels did you use for your rocket?