

Flying Home

You need a classmate

Activity One

Mae, Tipu, and Sali are flying back to Tonga after a holiday in New Zealand. They each have more luggage than they came with, and they think they may be over the airline's 20 kilogram limit on the mass of each person's luggage. They weigh each piece of their luggage on the airport scales.

Mae	
suitcase	15.62 kg
small bag	8.38 kg
box of presents	14.50 kg

Tipu	
backpack	14.29 kg
small bag	9.81 kg

Sali	
suitcase	16.74 kg
backpack	11.58 kg

1. Tipu works out the total of his luggage.

14.29 plus 0.01 from the bag is 14.3, plus another 0.7 is 15.
That leaves 9.1 from the bag. 15 plus 9 equals 24,
so I've got 24.1 kilograms.

What was Tipu's thinking when he decided to add 0.01 first and then 0.7?

2. How much over the limit is each person's luggage?
3.
 - a. It costs \$9.85 for each kilogram or part of a kilogram over the limit. How much would their combined excess baggage cost?
 - b. Discuss with a classmate what strategy Tipu might use to work this out.
4. Mae, Tipu, and Sali can only afford \$100 between them for excess baggage. They decide to leave behind some of the winter clothes they wore while they were in New Zealand. Estimate the mass they will need to leave behind.



Activity Two

Mae, Tipu, and Sali are flying home on a plane that takes 118 passengers. The airline allows for an average body mass of 82 kilograms per person, plus their luggage.

1. Estimate the total mass of the passengers if the plane is full. Explain how you worked it out.
2. If Sali weighs 76.7 kilograms and Tipu weighs 54.3 kilograms, how much is each of them below the airline's average body mass allowance?
3.
 - a. A rugby team is returning to Tonga on the same flight as Mae, Tipu, and Sali. Two of the rugby players weigh 50 percent above the airline's average body mass allowance. How much do they each weigh?
 - b. The airline allows for an average body mass of 90.2 kilograms for the rugby team. What percentage more than the usual average body mass allowance (82 kilograms) is that?
 - c. Six other players each weigh 98.4 kilograms or more. What percentage is 98.4 kilograms above the usual average body mass allowance?

