Practice tasks

Practice task one

The trip to Australia

Kaho, Kate and Krystal are raising funds for a school trip to Australia.

The trip has been planned for several years, so two years ago they had each put $500 into various saving schemes:

Kaho's paid him 4% compound interest annually.
Kate's paid her a total of 8% at the end of the two-year period.
Krystal's paid her 2% compound interest, paid at six-monthly intervals.

They all sell ice creams on sports day. They bought 150 ice creams, which cost them $2.80 each. They sold them all and made a 25% profit, which they shared equally between them.

Kaho made fudge. The ingredients cost him $23. He made 48 pieces, but he and his friends ate $\frac{3}{16}$. He sold the rest to the staff at morning tea time for $1.50 per piece. He kept the profit from the fudge.

Together they deliver telephone books. They receive $200 but Kaho works for seven hours, Kate for five and Krystal for four hours. They split the money in proportion to how long each worked.

Calculate how much each has raised towards the trip.

State clearly any assumptions that you make and explain your reasoning. You should show all your working clearly.

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They each need a minimum of $AU1500, and will need to change their New Zealand currency into Australian dollars. Over the last month the exchange rate has varied between $NZ1 = $AU0.96 and $NZ1 = $AU0.83. For each person, calculate how much more money ($NZ) they still need to raise.

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Practice task two

The netball tournament

Eleven friends are planning to enter a netball tournament. It will be held in a town that is 234 km from where they live. They will hire a van, stay away one night in a motel, and have dinner at a restaurant. Both the tournament venue and the restaurant are within walking distance of the motel. They will each need to buy a team T-shirt.

The van will cost them $245.00 plus 10% for insurance.

The van does 9.5 L per 100 km. Fuel costs 186.9c per litre.

The motel holds up to five people per unit. It costs $95 per night for two people, plus $15 per head for extra people.

Their meal will cost them $35 each, but if they book in advance the restaurant will give them a discount of 12%.

T-shirts will cost them $45 each including GST. However, because they are being supplied by a friend, he will pay the GST.

If the costs are shared between the 11 friends, how much will they each need to pay?

State clearly any assumptions that you make and explain your reasoning. You should show all your working clearly.

After they have all paid their contributions, they discover that because they will be representing their school, the school will pay $\frac{2}{7}$ of the total cost. Calculate how much refund each of the friends should receive.

Practice task three

The barbecue

Sixty students are hosting a Cultural Awards barbecue for 240 people.
They need to buy sausages, bread, tomato sauce and cordial.

One kilogram of sausages will feed six people.
Sausages are $11 per kg, and the butcher will give the students a 15% discount.
One loaf of bread will feed 10 people. Bread costs $1.50 per loaf.
One bottle of tomato sauce will be enough for 15 people, and costs $4.50 per bottle.
The cordial costs $3.50 per 750 mL bottle. It needs to be diluted in the ratio
1 part cordial: 10 parts water. Each person needs 200 mL of cordial drink.

The school's Board of Trustees (BOT) will pay 20% of the cost of the food and drink.
The Parents Association will pay $\frac{1}{3}$ of the cost of the food and drink.
The 60 students will share the balance of the cost of the food and drink.

Calculate exactly how much each student will have to pay to just cover the cost of the food.

State clearly any assumptions that you make and explain your reasoning. You should show all your working clearly.

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On the day of the barbecue, and after all the students have paid their $4, the organisers decide they should have fruit for afterwards. The fruit they select cost $59, but the owner of the shop said he would pay the GST portion of that price. The Parents Association couldn't afford to pay more, so the BOT said they would pay the extra cost. Calculate the percentage of the total cost of the barbecue that the BOT ends up paying.

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Practice task four

Dave's kayaks

Dave is starting up a kayaking company. To do so he must purchase the necessary equipment, which includes kayaks, skirts, paddles and life jackets. He gets quotes from two different companies.

He requires:
- 12 kayaks
- 20 paddles
- 8 skirts
- 22 life jackets

Calculate the cost of each of these options and recommend the best value to Dave. He wants to buy all his equipment from one supplier.

Kayaks Galore

The local store can provide:
- Kayaks for $125 each
- Paddles for $12 each
- Skirts for $35 each
- Life jackets for $49 each

These prices all exclude GST but since Dave is a local, the store will give him 10% off the total price.

Cheap Kayaks Ltd

This larger chain can provide:
- Kayaks for $134 each
- Paddles for $15 each
- Skirts for $27 each
- Life jackets for $51 each

These prices all include GST but there is a '$\frac{2}{5}$-off discount' on the life jackets. However, there is a $250 transport fee on each order.

From which shop will his equipment be cheaper?

State clearly any assumptions that you make and explain your reasoning. You should show all your working clearly.

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Cheap Kayaks have decided it will also give Dave one item free for every five similar items bought. For Kayaks Galore to match this, what discount would they need to offer?