

## Christmas Dinner

Father Christmas is organising the Christmas dinner to beat all Christmas dinners, but how much Christmas cake has he prepared?



1. He has prepared 4.2 kilograms of sprouts
2. The ratio of sprouts to roast potatoes is 3:2
3. The total weight of the swede and carrot mash and the parsnips is equal to four times the weight of the roast potatoes.
4. The swede and carrot mash weighs seven times as much as the parsnips.
5. When he added up the weight of all his vegetables, Santa found that he had exactly 600 grams more than the total weight of his mince pies. Each mince pie weighed 200 grams.
6. What he found even stranger was that if he wrote the number of mince pies in prime factor form, the power of the number two was the same as the number of jars of cranberry sauce he had prepared.
7. Not only that but if he took the number of jars of cranberry sauce to the power  $10^5$  and added 300 to it, it equalled the weight (in pounds) of the Christmas pudding he had made. When he worked out the weight of his Christmas pudding in kilograms he realised he might have made a bit too much.
8. What was interesting was that if he converted the weight of his Christmas pudding from kilograms to tonnes, and then multiplied that number by 0.48 he got the volume of gravy he had prepared in litres. By now he was starting to think he might have got the quantities of his dinner a bit mixed up.
9. The number of guests he had planned to invite was exactly equal to the volume of gravy he was preparing (in centilitres) rounded to the nearest 10 centilitres. This would be the number of crackers he would need.
10. He estimated that each guest would drink 250 ml of water during the course of the meal.
11. He decided to get quantities of water to grape juice to lemonade in the ratio 1 : 2 : 5, he was rather fond of lemonade after all.
12. Funnily enough it turned out that the weight of the Christmas Cake he had made (in kilograms) was exactly equal to the volume of lemonade he had prepared (in litres) multiplied by the number of jars of cranberry sauce he had.

## Student Sheet

Weight of Roast potatoes (kg)	
Number of Mince Pies	
Weight of Parsnips (kg)	
Weight of Swede and Carrot Mash (kg)	
Christmas Cake	
Weight of Sprouts (kg)	
Volume of Gravy (litres)	
Volume of Water (litres)	
Number of Crackers	
Volume of Grape juice (litres)	
Volume of Lemonade (litres)	
Number of jars of Cranberry Sauce	
Weight of Christmas pudding (kg)	



## Answer Sheet

Weight of Roast potatoes (kg)	2.8 kg
Number of Mince Pies	88
Weight of Parsnips (kg)	1.4 kg
Weight of Swede and Carrot Mash (kg)	9.8 kg
Christmas Cake	262.5 kg
Weight of Sprouts (kg)	4.2 kg
Volume of Gravy (litres)	0.72 litres
Volume of Water (litres)	17.5 litres
Number of Crackers	70
Volume of Grape juice (litres)	35 litres
Volume of Lemonade (litres)	87.5 litres
Number of jars of Cranberry Sauce	3
Weight of Christmas pudding (kg)	1500 kg

