Doughnuts - Task 1 (2 min)



- Identical doughnuts come in small bags (4 doughnuts) and large bags (7 doughnuts).
- Is it possible to buy exactly 15 doughnuts? (You can't split bags!)
- If you **can't** do it, say why not.
- If you **can** do it, say how.

Doughnuts - Task 2 (10 mins)



- What other total numbers of doughnuts can you make?
- What total numbers of doughnuts can't you make?

Doughnuts - Task 3 (15 mins)



 Identical doughnuts come in small bags and large bags. The prices of each bag are in the table below:

Number of doughnuts in bag	Price per bag
4	£1.00
7	£1.50

- A nice mathematics teacher wants to buy doughnuts for 31 students.
- What is the cheapest way to get enough doughnuts for the 31 students?

Answers...

Doughnuts - Task 1 (2 min)



- Identical doughnuts come in small bags (4 doughnuts) and large bags (7 doughnuts).
- Is it possible to buy exactly 15 doughnuts? (You can't split bags!)
- If you **can't** do it, say why not.
- If you **can** do it, say how.

Answer:

2 small bags and 1 large bag

Doughnuts - Task 2 (10 mins)



- What other total numbers of doughnuts can you make?
- What total numbers of doughnuts can't you make?

Answer:

You can't get 1, 2, 3, 5, 6, 9, 10, 13 or 17. 18 onwards are all possible

18 = 2 large + 1 small	19 = 1 large + 3 small	20 = 5 smail	21 = 3 large
22	23	24	25
26	27	28	29
30	31	32	33
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Doughnuts - Task 3 (15 mins)



 Identical doughnuts come in small bags and large bags. The prices of each bag are in the table below:

Number of doughnuts in bag	Price per bag
4	£1.00
7	£1.50

- A nice mathematics teacher wants to buy doughnuts for 31 students.
- What is the cheapest way to get enough doughnuts for the 31 students?

Answer: To buy exactly 31 you need 1 large bag and 6 small bags, costing £7.50

Buying 32 is cheaper. You need 4 large bags and 1 small bag, costing £7.