Business equations

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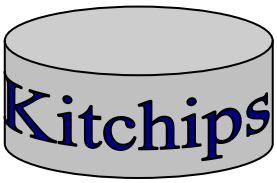
Starter worksheet

You work for a company called Kitchips that makes nutritious cat food. They want new packaging for their products and have created three new packaging ideas. Each idea affects the total cost of making a tin of cat food. You will have to decide which idea to use and what price to sell the tins at.

Basic Design tins (in black and white) overall cost 42p each to produce. Standard Design tins (in colour) cost 50p each overall. Distinctive Design tins (in deluxe colour) cost 68p each overall.



Kitchips has also commissioned a Sales Survey to find out how many people would buy each tin design at what price.

> Results of the Sales Survey:
>
> If the price is p pence, the number of people who would buy each tin could be modelled by 50000-300p for Basic Design, 50000-200p for Standard Design and 50000-150p for Distinctive Design.

Decide what packaging design you want, the price to sell one tin at and calculate your profit. Can you work out the largest possible profit you could make?

Packaging	Production cost of one tin	Price to sell the tin at	Number of people buying	Total profit made

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Core worksheet

You work for a company called Kitchips that makes nutritious cat food. They are bringing out a new product and you will have to decide how the product should be sold and at what price.

It costs 50p to produce a tin of Basic Mix cat food, 58p to produce a tin of Superior Mix, and 66p to produce a tin of Top Quality Mix.

Results of the Sales Survey

Kitchips commissioned another survey to find out how many people would buy each type of mix at what price. The conclusions were:

If the price was p pounds, the number of people who would buy each type of mix could be modelled by $30000 \div p^3$ for the Basic Mix, $40000 \div p^3$ for the Superior Mix and $50000 \div p^3$ for the Top Quality Mix.

Decide what type of mix you want to sell, the price to sell it at and calculate your profit. Can you work out the largest possible profit you could make?

Type of Mix	Production cost of one tin	Price to sell the tin at	Number of people buying	Total profit made