## Workout

## Increasing/Decreasing by a Percentage Video 238 on www.corbettmaths.com



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Question 1
(a) Increase 20 by $50 \%$
(d) Increase 400 litres by $20 \%$
(g) Increase 9000 by 5\%

Question 2
(a) Decrease 40 by $10 \%$
(b) Decrease 30 hours by $50 \%$
(c) Decrease 8 kg by $25 \%$
(d) Decrease 55 cm by $40 \%$
(e) Decrease 64 by $75 \%$
(f) Decrease $£ 3$ by $10 \%$
(g) Decrease 1400 by $30 \%$
(h) Decrease 500 g by $3 \%$
(i) Decrease 6kg by $5 \%$

Question 3
(a) Increase 80 ml by $9 \%$
(d) Decrease $£ 1250$ by $38 \%$
(b) Increase 420 g by $70 \%$
(c) Decrease 8 by $12 \%$
(e) Increase 6000 km by $23 \%$
(f) Decrease 48GB by 6\%
(g) Increase 204 by 98\%
(h) Decrease 149 mm by $91 \%$
(i) Increase 88 by $185 \%$

Question 4
(a) Decrease 90 ml by $7.5 \%$
(b) Increase $£ 670$ by $1.2 \%$
(c) Increase 3 by 67.4\%
(d) Increase 750 cm by $0.8 \%$

## Apply

Question 1: Last year, there was 20 students in a class.
椪 This year, there are $30 \%$ more students.
How many students are in the class this year?

Question 2: A TV normally costs $£ 520$.


In a sale, all prices are reduced by $10 \%$
Calculate the sale price of the TV

Question 3: Over the past 10 years, the population of a town has increased by $25 \%$


The population of the town 10 years ago was 18000
What is the population of the town now?

Question 4: A standard bag of flour contains 600 g of flour.
圈 A special edition bag contains $35 \%$ more flour.
How much flour is in the special edition bag?

Question 5: Richard owns a coffee shop.
In February, 4500 hot chocolates were sold.
The number of hot chocolates sold in March was 3\% less.
How many hot chocolates are sold in March?

Question 6: Gabriel's salary is $£ 24500$.


Next year he is due to get a $9 \%$ increase.
What will his new salary be?

Question 7: Iris spends $£ 40$ a month on water.


By changing company, Iris can save $16 \%$. How much would Iris pay each month?

Question 8: An empty flowerpot has a mass of 800 g .
The mass of the flowerpot increases to 4 kg when filled with soil.
A different flowerpot is $25 \%$ lighter but holds $40 \%$ more soil. Calculate the mass of this flowerpot when it is full of soil.

Question 9: Louis sees this special offer in a shop.


Louis buys both items.
How much does he pay?

## Special Offer

$\begin{array}{ll}\text { iPad } & £ 489 \\ \text { Case } & £ 55\end{array}$
Buy both items and receive a 3\% discount

Question 10: An adult ticket for the cinema costs $£ 13.40$
A child ticket is half the price of an adult ticket.


Mr and Mrs Henderson and their six children go to see a movie. Mrs Henderson has a voucher for $18 \%$ off.
Work out how much Mrs Henderson pays for the tickets.


Question 11: Zara wants to buy 72 candles.


Each candle costs $£ 4.80$
There is a special offer
Work out the cost of buying 72 candles using the special offer.

Special Offer
Candles $£ 4.80$ each

Buy 60 or more candles and get $15 \%$ off the total cost.

Question 12: When a tennis ball is dropped, it bounces and then rises. The ball rises to $80 \%$ of the height from which it is dropped.


The ball is dropped from a height of 4 metres.
(a) Calculate the height of the rise after the first bounce.
(b) Calculate the height of the rise after the second bounce.

The ball carries on bouncing, each time rising to $80 \%$ of the last rise.
(c) For how many bounces does the ball rise to a height greater than 10 cm ?


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