

# Higher/Intermediate Tier Reverse Percentages

1.

The bill for repairing a washing machine came to £151.68, inclusive of VAT at 20%.  
What was the cost before VAT was added? [3]

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2.

In a competition, Dewi threw the javelin 69.93 metres.  
This was an improvement of 8% on his previous best throw.  
Calculate the length of his previous best throw. [3]

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3.

A shop has reduced the price of a bicycle by 40% of its original price.  
The sale price of the bicycle is £192.  
Calculate the original price of the bicycle.

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[3]

4. The financial press has just published the following headline.

PURKOZI Ltd.

Annual profit £4,760,000

Down 13% from last year

What was the profit made by this company last year?  
Give your answer to the nearest ten thousand pounds.

[4]

5. Complete the table below.

Original amount	After a decrease of	
	40%	2%
£ .....	£492	£ .....

[4]

6.

A shopkeeper calculates the selling price of a coat by increasing the manufacturer's price by 18%.  
In a sale, the shopkeeper reduced the selling price of the coat by 15%. The sale price of the coat was £90.27.  
Calculate the manufacturer's price for the coat.

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[5]

# Marking Scheme

1.

6.	$(\pounds)151.68 \equiv 120\%$ (Original cost) $\frac{151.68}{120} \times 100$ or equivalent $= (\pounds)126.4(0)$	B1 M1  A1 3	Accept any indication.
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2.

3.

9.	$60\% \equiv (\pounds)192$ (Original price) $\frac{192}{60} \times 100$ $= (\pounds)320$	B1 M1  A1	Accept any indication. Or equivalent e.g. $192 / 0.6$ .
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4.

8.	$87\% \equiv (\pounds)4760000$ (Last year's profit) $\frac{4760000}{87} \times 100$ $= (\pounds)5471264(.368)$ $= (\pounds)5470000$	✓ ✓  ✓ ✓ B1 M1  A1 B1	Accept any indication.   F.T. from above if of equivalent difficulty.
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5.

12.	<table><tr><th>Amount</th><th colspan="2">After a decrease of</th></tr><tr><td></td><th>40%</th><th>2%</th></tr><tr><td><b>£820</b></td><td>£492</td><td><b>£803.6(0)</b></td></tr></table>	Amount	After a decrease of			40%	2%	<b>£820</b>	£492	<b>£803.6(0)</b>	B4  4	B3 for 820, or B2 for $492 \times 100 / 60$ , or B1 for '60% is 492', or B1 for $0.98 \times$ 'their 820' correctly evaluated to nearest penny or unrounded
Amount	After a decrease of											
	40%	2%										
<b>£820</b>	£492	<b>£803.6(0)</b>										

6.

13. Idea to work with £90.27 as 85% or considering the 2 <sup>nd</sup> step as 118% of original price $90.27 \div 0.85$ or equivalent $106.2(0)$ $106.2(0) \div 1.18$ $(\pounds)90$	S1  M1 A1 M1 A1 5	Maybe implied in further working  FT their 106.2(0) provided $>90.27$
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