Percentage Change Calculations

1. Fill in the blanks for the following statements:

$65\%\ of\ £90 =$ $\times 90 =$

$Increase\ £90\ by\ 65\% =$ $\%\ of\ £90 =$ $\times 90 =$

$Decrease\ £90\ by\ 65\% =$ $\%\ of\ £90 =$ $\times 90 =$

2. Complete the table (the first row is done for you):

Original Amount	Percentage Change	Operation	Final Amount
£90	43% *increase*	× 1.43	£128.70
£115	10% *increase*		
£30	9% *decrease*		
£18		× 0.02	
	15% *increase*	**× 1.15**	**£64.40**
	14.5% *decrease*		£51.30
		× 2.4	£36.48

3. Which of the following questions fits the information in row 5 of the table?

- A games console which is bought for £64.40 from the supplier is sold in the shop for 15% more. What is the price of the console in the shop?
- It costs a farmer £64.40 to fill the fuel tank of a tractor this year. Last year the same amount of fuel cost him 15% less. How much did it cost him to fill up last year?
- A jumper is on sale. The label says '15% off marked price'. If I paid £64.40 for it, what was the marked price?
- The cost of an MOT test has increased by 15% since last year. It currently costs £64.40. How much did the test cost last year?

Percentage Change Calculations SOLUTIONS

1. Fill in the blanks for the following statements:

$65\%\ of\ £90 =\ \mathbf{0.65}\ \times 90 =\ \mathbf{58.50}$

$Increase\ £90\ by\ 65\% =\ \mathbf{165}\ \%\ of\ £90 =\ \mathbf{1.65}\ \times 90 = \mathbf{148.5}$

$Decrease\ £90\ by\ 65\% =\ \mathbf{35}\ \%\ of\ £90 =\ \mathbf{0.35}\ \times 90 = \mathbf{31.5}$

2. Complete the table (the first row is done for you):

Original Amount	Percentage Change	Operation	Final Amount
£90	43% *increase*	× 1.43	£128.70
£115	10% *increase*	**× 1.1**	**£126.50**
£30	9% *decrease*	**× 0.91**	**£27.30**
£18	**98% *decrease***	× 0.02	**£0.36**
£56	**15% *increase***	**× 1.15**	**£64.40**
£60	14.5% *decrease*	**× 0.855**	£51.30
£15.20	**140% *increase***	× 2.4	£36.48

3. Which of the following questions fits the information in row 5 of the table?

- A games console which is bought for £64.40 from the supplier is sold in the shop for 15% more. What is the price of the console in the shop?
  No: $64.4 \times 1.15 = £74.06$ (percentage increase)

- It costs a farmer £64.40 to fill the fuel tank of a tractor this year. Last year the same amount of fuel cost him 15% less. How much did it cost him to fill up last year?
  No: $64.4 \times 0.85 = £54.74$ (percentage decrease)

- A jumper is on sale. The label says '15% off marked price'. If I paid £64.40 for it, what was the marked price?
  No: $64.4 \div 0.85 = £75.76$ (reverse percentage decrease)

- The cost of an MOT test has increased by 15% since last year. It currently costs £64.40. How much did the test cost last year?
  YES: $64.4 \div 1.15 = £56$ (reverse percentage increase)