
NUMBER: REVERSE PERCENTAGES**Best Guess Mastery Worksheet (Target Grade 5/6)****I Do**

In a spring sale, the normal price of a television is reduced by 20%.

The sale price of the television is £344.

Jo wants to know the original cost.

Work out the normal price of the television.

£

We Do

Sarah gets a 4% pay rise.

Her new annual salary is £29,120.

Work out Sarah's annual salary before the pay rise.

£

NUMBER: REVERSE PERCENTAGES**Best Guess Mastery Worksheet (Target Grade 5/6)****You Do 1**

Doug buys a new car.

In the first year, its value decreases by 15%.

The value of the car is now £11,475.

Work out the original value of the car.

£

You Do 2

Fin sells a rare comic book for £276.

He makes a 15% profit on the price he originally paid.

Work out how much Fin originally paid for the comic book.

£

NUMBER: REPEATED REVERSE PERCENTAGES**Best Guess Mastery Worksheet (Target Grade 6/7)****Challenge 1**

Maia buys a sofa.

In a winter sale, the normal price is reduced by 15%.

Maia uses a special voucher to get a further 10% off the sale price.

She pays £612 in total.

Work out the normal price of the sofa.

£

Challenge 2

Don invests some money into a savings account that pays 3% compound interest per annum.

He does not add or withdraw any money.

After 4 years, the account has a balance of £562.75.

Work out how much money Don originally invested.

Give your answer to the nearest pound.

£

Answers & Worked Solutions

I Do:

1. A 20% reduction means the sale price is 80% of the normal price.
2. The decimal multiplier for 80% is 0.8.
3. Normal Price $\times 0.8 = 344$.
4. Normal Price = $344 \div 0.8 = \text{£}430$.

We Do:

1. A 4% increase means the new salary is 104% of the original salary.
2. The decimal multiplier for 104% is 1.04.
3. Original Salary $\times 1.04 = 29,120$.
4. Original Salary = $29120 \div 1.04 = \text{£}28,000$.

You Do 1:

1. A 15% decrease means the new value is 85% of the original value.
2. The decimal multiplier for 85% is 0.85.
3. Original Value $\times 0.85 = 11,475$.
4. Original Value = $11475 \div 0.85 = \text{£}13,500$.

You Do 2:

1. A 15% profit (increase) means the selling price is 115% of the cost price.
2. The decimal multiplier for 115% is 1.15.
3. Cost Price $\times 1.15 = 276$.
4. Cost Price = $276 \div 1.15 = \text{£}240$.

Challenge 1:

1. There are two percentage reductions: 15% (multiplier 0.85) and then 10% (multiplier 0.9).
 2. Overall multiplier = $0.85 \times 0.9 = 0.765$.
 3. Normal Price $\times 0.765 = 612$.
 4. Normal Price = $612 \div 0.765 = \text{£}800$.
- (Alternatively, work backwards step-by-step: $612 \div 0.9 = 680$, then $680 \div 0.85 = 800$).

Challenge 2:

1. A 3% compound interest means multiplying by 1.03 each year.
2. For 4 years, the combined multiplier is 1.03^4 .
3. Original Investment $\times 1.03^4 = 562.75$.
4. Original Investment = $562.75 \div 1.03^4 = 562.75 \div 1.12550881 = 499.99\dots$
5. To the nearest pound = **£500**.