

Problem of the Week: Week 1 (Summer 2): Year 8: ratio and proportion Compound measures and conversions

- Use compound measure such as speed, unit pricing and density to solve problems
- Use scale factors, scale diagrams and maps
- Change freely between related standard units

Problem

Choose three items, for example, a mobile phone, reading book, ruler. Half the dimensions of each object and draw them using these measurements, so that they fit onto a piece of A4 paper, without overlapping the diagrams. Record the following information:

- Original measurements
- New measurements
- Scale used

What if the scale was 1 to 3, what would the measurements be?

Problem

A rectangular room measures 6 metres by 4 metres. I want a scale drawing, with 1cm = 0.25m.

What will the dimensions of my scale drawing be?

Would this be a suitable scale for a room measuring 20m by 15m? Explain your answer.

<https://www.ncetm.org.uk/resources/47230> (secondary assessment materials)

Problem

Best value.....which measure is most effective to decide which product to buy? Why?

Toilet roll: cost per 100g or cost per sheet

Cereal: cost per 100g or cost per portion

Squash: cost per 100g or cost per 100ml

Cereal A is marked up with the cost per 100g and cereal B is marked up at the cost per portion, can you decide which is better value? Give reasons for your answer.

Problem

Here are three offers for a computer.

<p>Tablet World</p> <p>Usual price £170</p> <p>20% off</p>

<p>IT Supplies</p> <p>Usual price £180</p> <p>$\frac{1}{4}$ off</p>

<p>PC Heaven</p> <p>Special offer</p> <p>Pay £23 each month for 6 months</p>

Which offer is the cheapest?

Exampro: AQA GCSE 8300

