

National 5 Homework

Numerical Skills

Appreciation and Depreciation

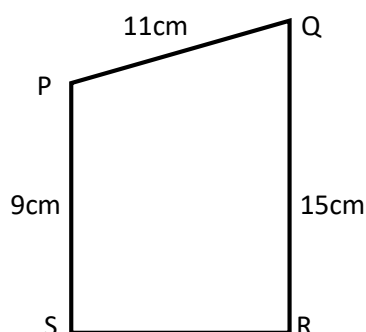
1. A house is valued at £97,000 in 2013. If it was expected to rise at a rate of 9% per year, what will its value be in 2017? Give your answer to the nearest £100.
2. The temperature of a liquid is 96°C. It cools at a rate of 3% per minute. What will its temperature be after 12 minutes?
3. The population of a city is approximately 52,100. It is expected to increase by 5% per year over the next 4 years. Calculate the expected population in 4 years time.
4. A tree is 3.7 metres tall and will need trimmed when it reaches 4 metres. If it increases by 1.4% every week, will it need trimmed after 5 weeks? Show your working and explain your answer.
5. A loch is infected with 23,000,000 bacteria. A chemical is added to remove this at a rate of 23% per week and aims to half the number of bacteria at the end of 3 weeks. Will this chemical be successful? Show all your working and explain your answer.
6. A new car is priced at £8,650. After its first year it decreases by 36%. In its second year it decreases a further 19% and in its third year it decreases by 17%. Calculate its value after 3 years.
7. A drinks manufacturer is reducing the sugar content of one of their fizzy drinks by 8% per year over the next 3 years.

The sugar content of a standard can is currently 35 grams.

Calculate the sugar content of a standard can after 3 years. **[SQA Paper 2 ; 3 marks]**

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8. Evaluate $a^{3/4}$ when $a = 81$.
9. Fully simplify $p^{3/2}(3p + 2p^{-3/2})$.
10. Find the exact length of SR in the diagram below. Give your answer in its simplest form.



11. Work out $5\frac{1}{3} \div 1\frac{3}{5}$.
12. In one season, the total attendance at all games for a football team was 143,524. Round this number to 3 significant figures.