Test - Fractions, decimals and percentages

Year: Year 10 · Duration: 45 minutes · /20

Name:	Date:	**Mark: /20**

Question	1	2	3	4	5	Total
marks	4	4	4	4	4	**20**
Mark						

Show your working.

Question 1 (4 marks)

Question 1 – Fractions

Non-calculator. Give answers as fractions in their simplest form.

a. Work out $\frac{5}{8} + \frac{7}{12}$. (2 marks)

b. Work out $3\frac{1}{3} \div 1\frac{2}{3}$. (2 marks)

Question 2 (4 marks)

Question 2 – Percentages

Calculator allowed.

a. Increase £85 by 12%. (2 marks)

b. A school roll falls from 840 to 777. Work out the percentage decrease. (2 marks)

Question 3 (4 marks)

Question 3 – Compound change

A new motorbike costs £6500. Its value falls by 18% in the first year and by 12% in the second year.

a. Work out the value after two years. (2 marks)

b. Find the overall percentage decrease, to 1 d.p. (2 marks)

Question 4 (4 marks)

Question 4 – Reverse percentages

Calculator allowed.

a. A television costs £456 including VAT at 20%. Work out the price before VAT. (2 marks)
b. In a sale the price of a jacket is reduced by 30%. The sale price is £59.50. Work out the original price. (2 marks)

Question 5 (4 marks)

Question 5 – Higher: recurring decimals and growth

Higher tier.

a. Prove that $0.\dot{3}\dot{6} = \frac{4}{11}$. (2 marks)
b. A population of 25 000 grows by 4% each year. Work out the population after 6 years to the nearest 100. (1 mark)
c. How many years until it is first above 40 000? (1 mark)