

Maths HL8 – Fraction Arithmetic, percentages and Standard Form

- 1 Calculate $\frac{5}{6}\left(\frac{1}{4} + \frac{1}{8}\right)$ giving your answer as a fraction in its lowest terms.
- 2 93 800 students took an examination.
19% received grade A.
24% received grade B.
31% received grade C.
10% received grade D.
11% received grade E.
The rest received grade U.
 - a What percentage of the students received grade U?
 - b What fraction of the students received grade B? Give your answer in its lowest terms.
 - c How many students received grade A?
- 3 During one summer there were 27 500 cases of *Salmonella* poisoning in Britain. The next summer there was an increase of 9% in the number of cases. Calculate how many cases there were in the second year.
- 4 Abdul's height was 160 cm on his 15th birthday. It was 172 cm on his 16th birthday. What was the percentage increase in his height?

Past paper questions

- 1 Write 0.0000574 in standard form. [1]
[Cambridge IGCSE Mathematics 0580 Paper 22 Q1 May/June 2016]
- 2 **Do not use a calculator in this question and show all the steps of your working.**
Give each answer as a fraction in its lowest terms.
Work out
 - a $\frac{3}{4} - \frac{1}{12}$ [2]
 - b $2\frac{1}{2} \times \frac{4}{25}$ [2]*[Cambridge IGCSE Mathematics 0580 Paper 11 Q21 October/November 2013]*
- 3 Calculate 17.5% of 44 kg. [2]
[Cambridge IGCSE Mathematics 0580 Paper 11 Q10 October/November 2013]
- 4 **Without using your calculator,** work out $5\frac{3}{8} - 2\frac{1}{5}$.
Give your answer as a fraction in its lowest terms.
You must show all your working. [3]
[Cambridge IGCSE Mathematics 0580 Paper 13 Q17 October/November 2012]
- 5 Samantha invests \$600 at a rate of 2% per year simple interest.
Calculate the interest Samantha earns in 8 years. [2]

$$\frac{7}{8} + \frac{1}{11} = \frac{77}{88} + \frac{8}{88} = \frac{85}{88}$$

$$4\frac{9}{12} - 1\frac{2}{9} = 3\frac{57}{108} = 3\frac{19}{36}$$

$$\frac{2}{3} \times \frac{5}{8} = \frac{10}{24} = \frac{5}{12}$$

$$4\frac{1}{2} \div 3\frac{4}{12} = \frac{9}{2} \div \frac{40}{12} = \frac{9}{2} \times \frac{12}{40} = \frac{108}{80} = 1\frac{28}{80} = 1\frac{7}{20}$$