



School of Business Economics and Informatics

Undergraduate Programmes

Sample Maths Test

The maths selection test will assess your ability to do the level of maths required for your chosen degree. It will assess you in the following areas:

- Basic number calculation
- Conversion of numbers
- Simple equations
- Recognising numbers
- Magnitude
- Maths problem solving
- Logic problem solving
- Number sequences
- Ratio

Sample questions are printed below. You should attempt these questions and brush up on the areas you find difficult before you come for the test.

Do not worry unduly if you find some questions difficult. You are not required to answer all questions correctly to successfully complete the test. For acceptance on to a BSc programme a candidate must achieve 60% or greater. For acceptance on to a Foundation programme a candidate must achieve 50% or greater.

Sample questions:

1. Calculate the following:

a) $666 + 234$

b) $941 - 265$

c) 13×27

d) $196 \div 14$

e) $57 + 0$

2. Perform the following conversions between different units of length:

a) 1010 millilitres into litres

b) 2.2 litres into millilitres

c) 0.32 litres into centilitres

d) 100 litres into millilitres

e) 51,000 millilitres into centilitres

Help for question 2:

This question involves multiplication and division of tens and hundreds, or more.

Reminder: $1000\text{ml} = 1 \text{ litre}$; $100\text{cl} = 1 \text{ litre}$

3. Evaluate y in each of the following equations:

a) $y = ba - bx$; (Where $a = 4$, $b = 1$ and $x = 5$)

b) $y = a - (b/c)$ (Where $a = 7$, $b = 7$ and $c = 7$)

c) $y(y) - y = 0$

d) $2xy + y = 10$

e) $y = [(x - z)/xz + 1/z]^{1/2}$ (Where $x = 3$ and $z = 7$)

4. What is a third as much as 33%?

5. Write 0.7689 as a percentage.

6. Write 3.3457 to two three places (Round up where necessary)
7. How much is $(-3)^3$?
8. Rank the following numbers in ascending order: -0.2, $1/7$, -21, and 12%
9. Rank the following in descending order: -0.1^3 , -0.001, 10^{-3} , one third.
10. If one person can move 11 desks, how many people are needed to carry 99 desks?
11. Red wine costs 90p per litre when bought in bulk, plus a delivery charge of £5 (whatever quantity is bought). How much would 30 litres of wine cost (including delivery)?
12. If I buy a house for £40,000 but it halves in value each year, after how many years will it be worth £2500?
13. Karen invested £3800 for three years in a bank. The bank paid her 3.5% interest. After three years how much will she have in the bank?
14. My business is valued at £90,000, which is 30% over the original price I paid for it 20 years ago. If I sell my business, what is my net profit (or net gain)?
15. Find the missing number from this series: 3, 7, 15, ?, 63
16. Cathy has six pairs of black socks and six pairs of white socks in her drawer. In complete darkness, and without looking, how many socks must she take from the drawer in order to be sure to get a pair that match?
17. You have six pails of water. Moving only one pail, how can you create the following pattern: full/empty/full/empty/full/empty?



18. When asked about his birthday, a man said: "The day before yesterday I was only 25 and next year I will turn 28." This is true only one day in a year - when was he born?

19. Rovers FC is the biggest football stadium in Exland. It covers an area of a quarter of a mile x 107 square metres. United FC is the biggest stadium in Zedland. It has a surface area of 0.33 of a mile x a quarter of a kilometre. What is the ratio of the area of Rovers FC's stadium to United FC's stadium? Give your answer in the form 1: n.

Help for question 18:

There are 1609.344 metres in a mile.

20. A student obtained an average mark of 86% in three examinations. Given that the student has obtained at least 79% in all three examinations, what is the highest mark that could have been achieved in any one examination?