

Maths Learning Centre

Business and Economic Statistics I: Maths Skills Diagnostic

Why this test is here

Business and Economic Statistics I is *not* a mathematics course and does *not* require a high level of mathematical knowledge (most of what you will need is covered at intermediate High School level). However, the course does involve

- manipulating numbers (data values),
- algebraic formulae and
- interpreting graphs

so your life will be a lot easier if you understand the skills covered in these Maths Diagnostic questions.

How to do the test

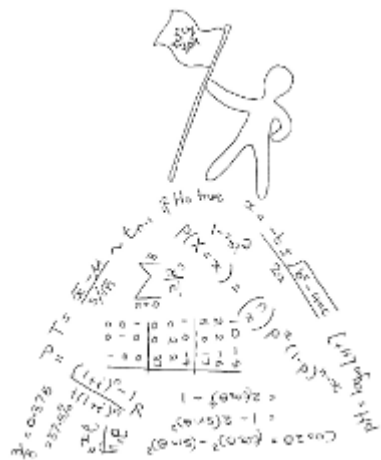
1. Try out the questions without looking at the answers. Do any working you need on another piece of paper.
2. Check your answers using the separate answers sheet.
3. If you got any wrong, see what to do below...

What to do if you get some of the questions wrong

Don't panic! The problem may be very easy to fix. First see if you can figure out what you did wrong yourself – it might be a very simple error.

Then, try visiting the **Maths Learning Centre**. It's open **10am** to **4pm** Monday to Friday during the Semester and you can drop in any time and talk to one of the tutors there. We can discuss the questions with you, figure out what you need to learn, and help you learn it. We can also supply you with revision notes or help you with your calculator. If you *do* come to ask about this test, please bring it with you, plus any working you did, so we can figure out exactly what help you need.

Finally, for now and for the whole semester, get help with any problems **as soon as possible**, before the problem gets worse!



Maths Learning Centre

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Business and Economic Statistics I: Maths Skills Diagnostic

1. Find

(a) $7 + 2 \times 3$

(b) $6 - (3 - 6)$

(c) $(3 + 5)^2$

(d) $3^2 + 5^2$

(e) $3 + 5^2$

(f) $\frac{3}{5}$
 $\frac{2}{7}$

(g) $\frac{5 - 2}{2/\sqrt{9}}$

2. Use a calculator to find

(a) the square of 17.2

(b) the square root of 143

3. Round to two decimal place accuracy.

(a) 3.414

(b) -2.449

(c) 0.015

(d) 3.3333...

4. Convert

(a) $\frac{2}{25}$ to a decimal

(b) $\frac{7}{16}$ to a percentage

(c) 0.625 to a fraction in simplest form

5. If $a = 10$, $b = -2$, $c = 4$ and $d = 25$ find

(a) $\frac{a - b}{c}$

(b) $a + bc/\sqrt{d}$

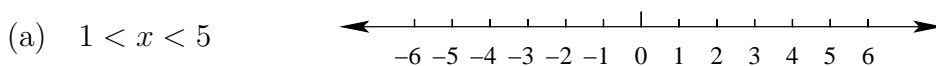
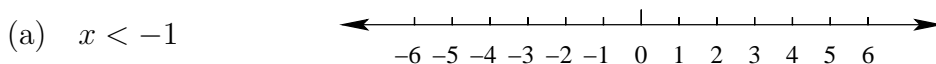
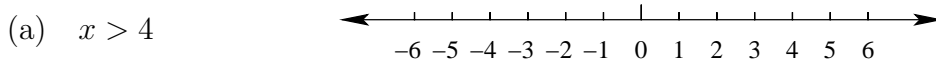
6. Let X be the number of heads we get in five tosses of a coin (ie. $X = 0, 1, 2, 3, 4$ or 5 heads). Which possible values of X are included in each of the following statements?

(a) $X \geq 3$

(b) $X > 3$

(c) $2 \leq X < 5$

7. Draw the sections of the real number lines below representing the following inequalities:



8. Solve for x

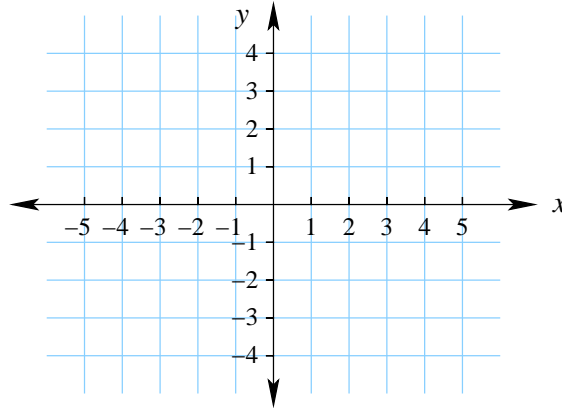
(a) $z = \frac{x - 100}{15}$

$x =$

(b) $1 < \frac{x - 5}{2} < 10$

$< x <$

9. Plot the co-ordinates $(2, 1)$, $(-5, 3)$, $(3, 0)$, $(0, 4)$ on the axes below:



10. For the line $y = 2x - 1$

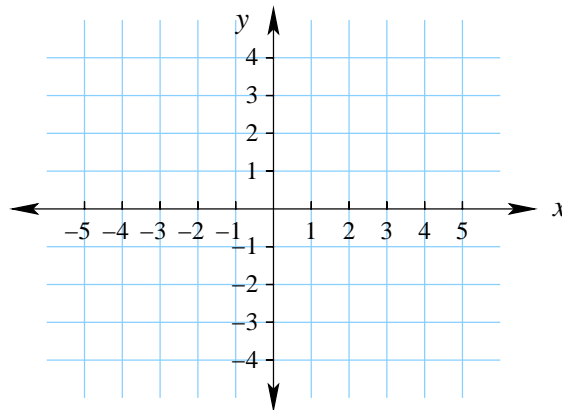
(a) What value does y take when $x = 3$?

$y =$

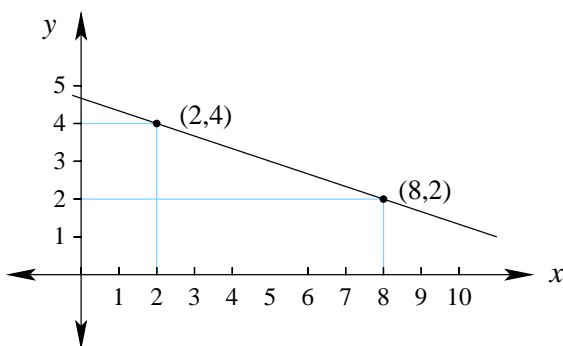
(b) What is the value of the slope and y -intercept?

slope =
 y - intercept =

(c) Sketch the line on the axes below.



11. Find the equation of the line below.



$y =$