0 1 **Table 1** describes some sets of numbers.

Table 1

A	A set of numbers that represent all possible real world quantities.
B	A set of numbers that can be written as fractions (ratios of integers).
C	A set of numbers that cannot be written as fractions (ratios of integers).

0 1 . 1 Shade in **one** lozenge to indicate which of the descriptions in **Table 1** describes the set of real numbers.

[1 mark]

A ⬭ **B** ⬭ **C** ⬭

0 1 . 2 Shade in **one** lozenge to indicate which of the descriptions in **Table 1** describes the set of irrational numbers.

[1 mark]

A ⬭ **B** ⬭ **C** ⬭

0 2 . 1 Explain the difference between the set of natural numbers and the set of integer numbers.

[1 mark]

0 2 . 2 Explain the difference between rational and irrational numbers.

[1 mark]

0 3 . 1 Describe the difference between natural numbers and integers.

In your answer, give **one** example of a number that is an integer but not a natural number.

[2 marks]

0 3 . 2 Describe what it means for a number to be irrational.

In your answer, give **one** example of an irrational number.

[2 marks]

0 3 . 3 Shade **one** lozenge in the **Counting** column to indicate which set of numbers is most suitable for counting and **one** lozenge in the **Measuring** column to indicate which set of numbers is most suitable for measuring real-world quantities.

[2 marks]

		Counting	**Measuring**
A	Integer	⬭	⬭
B	Natural	⬭	⬭
C	Rational	⬭	⬭
D	Real	⬭	⬭

0 4 . 1 Shade in **one** lozenge to indicate which of the following values is an irrational number.

[1 mark]

A $\frac{3}{4}$ ⬭

B $\sqrt{2}$ ⬭

C 73 ⬭

D –19 ⬭

0 4 . 2 Shade in **one** lozenge to indicate which of the following values is a natural number.

[1 mark]

A $\frac{3}{4}$ ⬭

B $\sqrt{2}$ ⬭

C 73 ⬭

D –19 ⬭

0 4 . 3 Define the set of real numbers.

[1 mark]

0 4 . 4 Shade in **one** lozenge to indicate which of the following symbols represents the set of numbers most suitable for counting the number of people in a room.

[1 mark]

A $\mathbb{N}$ ⬭

B $\mathbb{Q}$ ⬭

C $\mathbb{R}$ ⬭

D $\mathbb{Z}$ ⬭

0 4 . 5 What is meant by the term **ordinal number**?

[1 mark]

0 5 . 1 Describe the set of real numbers.

[1 mark]

0 5 . 2 The number 5 can be written as $\frac{15}{3}$

Shade **two** lozenges to indicate which of the following statements are true.

[2 marks]

A	15 and 3 are **not** integers	⬭
B	15 and 3 are irrational numbers	⬭
C	5 is an irrational number	⬭
D	5 is a natural number	⬭
E	5 is a rational number	⬭

0 5 . 3 Shade **one** lozenge to indicate which of the symbols below represents the set of rational numbers.

[1 mark]

A	$\mathbb{C}$	⬭
B	$\mathbb{N}$	⬭
C	$\mathbb{Q}$	⬭
D	$\mathbb{R}$	⬭
E	$\mathbb{Z}$	⬭

0 6 . 1 One of the numbers listed below is a member of the set of integers, the set of rational numbers and the set of real numbers, but **is not** a member of either the set of irrational numbers or the set of natural numbers.

Shade **one** lozenge to indicate which number this is.

[1 mark]

A –43 ⬭

B $\frac{12}{35}$ ⬭

C 87 ⬭

D 107.834 ⬭

0 6 . 2 Shade **one** lozenge to indicate which type of number would be most appropriate to use to measure the length of an item, such as a piece of rope.

[1 mark]

A Integer ⬭

B Irrational ⬭

C Natural ⬭

D Rational ⬭

E Real ⬭