

**Maths Section test (Fractions and decimals, Factors, multiple and counting, Powers and roots, Exact answers and standard form, Calculator skills and Estimation and accuracy) Questions**

1. Write as a decimal (1)
2. Which set of values is in the correct order of size, (1)

 from smallest to largest

1. 61%, , , 0.67
2. , 61%, , 0.67
3. , 61%, , 0.67
4. %, , , 0.67
5. Which of the following fractions is a terminating decimal? (1)
6. Work out 2 + 3 (2)

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1. Work out the recurring decimal 0.63 as a fraction in its (2)

 simplest form.

1. Work out 5 1 (2)

1. The diagram shows three identical shapes. (2)

Area A is of the whole shape. Area C is of the whole shape.

Work out the shaded Area for shape B.

1. Work out the HCF and LCM of 84 and 180 (4)
2. How many 4-digit numbers can be made using these number cards (1)

8

7

1

5

1. A password is made up of 3 characters. The first character is a letter. The second character is a non-zero even number. The third character is an odd number. Work out the total number of possible passwords. (2)
2. What is 32 as a power of 2? (1)
3. Work out (1)
4. Find the value of x when 23x-5 = (3)
5. Given = what is the exact value of x? (3)
6. Which of these is the closest estimate to (1)

A)11.8

B)13.4

C)12.9

D)15.1

1. Write the following as a single power of 3
2. (32)3 X 30  (1)
3. (1)
4. Simplify (1)
5. Rationalise the denominator of (1)
6. = k where k is an integer. Find the value of k. (2)
7. Work out (6.7 x 106) + (3.4 x 105) (2)

Give your answer in standard form.

1. Work out (1.4 x 10-5) (2 x 10-2) (2)

Give your answer in standard form.

1. The perimeter of a circle is . The perimeter of a larger circle is How much longer is the perimeter of the larger circle. Give your answer in terms of π. You must show your working. (2)
2. The area of circle A is π cm2. The area of circle B 36 π cm2. How many times greater is the area of circle B than the area of circle A? Give your answer as a fraction. You must show your working (2)
3. Find the value of (3.6 -0.55)2 + (2)

 You must show your working.

1. Find the value of Write down all the figures on your calculator display. You must show your working. (2)
2. Work out (3.72 x 10-4) x (2.1 x 107) (2)

Give your answer in standard form.

1. Work out the value of (2)

Give your answer in standard form.

1. In 2019, the population of the UK was estimated as 6.69 x 107. The area of the UK is 2.425 x 105 Km2. Calculate the mean number of people per square kilometre in the UK. Give your answer to an appropriate degree of accuracy. (2)
2. Work out an estimate for (2)
3. The dimensions of a rectangle are 18cm and 11 cm, correct to 2 significant figures. Calculate the lower bound for the perimeter and area of the rectangle. You must show your working. (3)
4. The area, A, of a rectangle is 26cm2 correct to 2 significant figures. The length, l, of the rectangle is 5.1 cm correct to 2 significant figures. Calculate the upper bound of the width, w, of the rectangle. You must show your working (3)

1. The curved surface area of a cylinder is 120cm2, to the nearest cm2. The radius is 3.1 cm, correct to 1 decimal place. Find the height of the cylinder to an appropriate degree of accuracy. You must show your working. (3)
2. Ellie uses a calculator to find the value of a number n. She only writes down the first two digits of the answer on her calculator display. She writes down 5.3. Write down the error interval for the actual value of n. (1)