



# Test 4

There are **7 questions** in this test. Give yourself **10 minutes** to answer them all.

You may use a calculator for this test.



1. What is the value of  $\sqrt[3]{729}$ ? Circle your answer.

2187

243

27

9

[1]

2.  $x = 2.8$  has been truncated to 1 decimal place. Which of the following inequalities shows the range of possible values of  $x$ ? Circle your answer.

$2.75 < x \leq 2.85$

$2.75 \leq x < 2.85$

$2.8 \leq x < 2.9$

$2.7 < x \leq 2.8$

[1]

3. A history society has unearthed time capsules from four different locations, A-D. The table shows how far below the surface each capsule was buried. Put the locations in order, starting with the location that had the deepest time capsule.

Location	A	B	C	D
Depth (m)	-1.68	-1.8	-0.86	-1.72

.....  
[1]

4. Work out the value of  $\frac{2.3^2 - \sqrt{6.25}}{(4.1 + 1.8) \times 1.6}$  as a decimal.

Write down all the numbers on your calculator display.

.....  
[2]

5. Shiro gives away  $\frac{7}{12}$  of his sweets. He is left with 35 sweets. How many sweets did he have to begin with?

.....  
[2]

6. Write 98 as a product of its prime factors. Give your answer using index notation.

.....  
[2]

7. Medina makes 500 jars of jam and sells them in different places.

- $\frac{3}{10}$  of the jars are sold at a market stall for £2.20 each.
- $\frac{3}{5}$  are sold in a farm shop for £2.35 each.
- The rest are sold at a village fair for £2.05 each.

How much money does Medina make?

£.....  
[3]

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1. 9 [1 mark]

2.  $2.8 \leq x < 2.9$  [1 mark]

Remember, truncation is chopping off decimal places — so  $x$  can be any value that starts with 2.8...

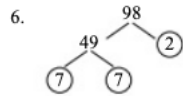
3. In ascending order, the numbers are  $-1.8, -1.72, -1.68, -0.86$ .  
So the correct order of the locations is B, D, A, C [1 mark].

4.  $\frac{2.3^2 - \sqrt{6.25}}{(4.1 + 1.8) \times 1.6} = \frac{2.79}{9.44}$   
 $= 0.29555084(74576)$

[2 marks for the correct answer, otherwise 1 mark for the correct numerator (2.79) or the correct denominator (9.44)]

5. 35 sweets is  $1 - \frac{7}{12} = \frac{5}{12}$ .  
So  $\frac{1}{12} = 35 \div 5 = 7$ , which means Shiro had  $7 \times 12 = 84$  sweets to begin with.

[1 mark for a correct method, 1 mark for the correct answer]



So  $98 = 2 \times 7^2$

[1 mark for a correct method, 1 mark for the correct answer]

7.  $\frac{3}{10}$  of 500 = 150, so Medina makes  $150 \times \pounds 2.20 = \pounds 330$  from the market stall.  $\frac{3}{5}$  of 500 = 300, so she makes  $300 \times \pounds 2.35 = \pounds 705$  from the farm shop. That leaves  $500 - 150 - 300 = 50$  jars, so she makes  $50 \times \pounds 2.05 = \pounds 102.50$  from the village fair. In total, she makes  $\pounds 330 + \pounds 705 + \pounds 102.50 = \pounds 1137.50$ .

[1 mark for finding the number of jars sold at each place, 1 mark for finding the amount of money made at each place, 1 mark for the correct answer]