

Prequalification Test

The BSRIA domestic airtightness testing course is designed for candidates with a base level of knowledge in the areas of mathematics, construction and geometry. The purpose of this test is to establish whether you have this base level of knowledge. As there are some questions specifically about airtightness testing, it is recommended that you read and understand Technical Standard 1 (TS1), published by the Air Tightness Testing and Measurement Association (ATTMA). This can be downloaded for free from www.attma.org.

This test has 20 questions, all multiple-choice. Answers are provided on the last page. If you have difficulty with a significant number of these questions, you may have difficulty with the course, and it is recommended that you undertake further study of these subject areas before attending the course.

Mathematics

Carry out the following multiplications and divisions without using a calculator

1.	3,486 x 100 =	a.	34.86	
		b.	348.6	
		c.	34,860	
		d.	348,600	

2.	7.56 x 10 =	a.	0.756	
		b.	75.6	
		c.	756	
		d.	7,560	

3.	93 / 100 =	a.	0.093	
		b.	0.93	
		c.	9.3	
		d.	930	

4.	156,500 / 100 =	a.	1,565	
		b.	15,650	
		c.	1,565,000	
		d.	15,650,000	

You may use a calculator for the remaining questions

5.	If a car travels at 60 km/h for 45 minutes, how far will it travel?	a.	60 km	
		b.	45 km	
		c.	75 km	
		d.	105 km	

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For questions 6 to 9, $x = 6$, $y = 2$ and $z = 3$

6.	$x + y =$	a.	5	
		b.	9	
		c.	8	
		d.	4	

7.	$x \times (y + z) =$	a.	30	
		b.	36	
		c.	11	
		d.	25	

8.	$x - z =$	a.	3	
		b.	4	
		c.	8	
		d.	9	

9.	$x / y =$	a.	12	
		b.	2	
		c.	3	
		d.	6	

Construction

You will need to refer to ATTMA TS1 to answer some of the following questions

10.	In a new house, which of the following should be insulated?	a.	External walls	
		b.	The ground floor	
		c.	The roof	
		d.	The hot water cylinder	
		e.	All of the above	

11.	Which of the following devices provide an air infiltration path through the building envelope?	a.	Bathroom extract fan	
		b.	Boiler with balanced flue	
		c.	Open trickle vent	
		d.	Airbrick	
		e.	All of the above	

12.	Why do new buildings need to be tested for airtightness?	a.	To improve energy efficiency	
		b.	Because it is difficult to see the gaps and cracks	
		c.	To comply with Part L of the Building Regulations	
		d.	To improve occupant comfort by reducing draughts	
		e.	All of the above	

13.	What equipment is required to measure air leakage?	a.	A Fan	
		b.	Pressure measuring devices	
		c.	Windspeed measuring devices	
		d.	Thermometers	
		e.	All of the above	

14.	4 houses have been tested and the following results obtained: 3, 5, 7, 10 m ³ /(hr.m ²)@50Pa. Which house is the most airtight?	a.	3	
		b.	5	
		c.	7	
		d.	10	

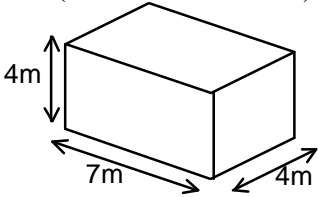
15.	What should the builder do each time he makes a hole in the building envelope?	a.	Nothing, just leave it	
		b.	Seal around it with fibreglass insulation	
		c.	Seal around it with flexible material	
		d.	It's not the builder's problem	

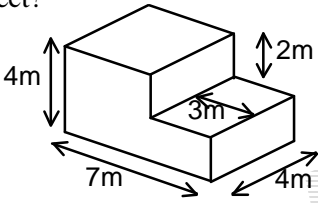
Geometry

16.	Which of the following is a unit of area?	a.	Cubic metres (m ³)	
		b.	Square metres (m ²)	
		c.	Kilometres (km)	
		d.	Metres per second (m/s)	

17.	What is the area of this rectangle?	a.	11m ²	
		b.	17m ²	
		c.	24m ²	
		d.	28m ²	

18.	What is the area of this shape?	a.	16m ²	
		b.	22m ²	
		c.	27m ²	
		d.	34m ²	

19.	What is the total surface area of this cuboid? (Hint: it has six sides) 	a.	$64m^2$	
		b.	$112m^2$	
		c.	$144m^2$	
		d.	$168m^2$	

20.	What is the total surface area of this 3D object? 	a.	$88m^2$	
		b.	$132m^2$	
		c.	$156m^2$	
		d.	$176m^2$	

Answers

- 1. d
- 2. b
- 3. b
- 4. a
- 5. b
- 6. c
- 7. a
- 8. a
- 9. c
- 10. e
- 11. a, c & d
- 12. e
- 13. e
- 14. a
- 15. c
- 16. b
- 17. d
- 18. b
- 19. c
- 20. b