Name:

Exam Style Questions

Dimensional Analysis

Corbettmaths

Equipment needed: Pen

Guidance

1. Read each question carefully before you begin answering it.
2. Check your answers seem right.
3. Always show your workings

Video Tutorial

www.corbettmaths.com/contents

Video 97

Answers and Video Solutions

1. This table shows some expressions.

The letters l, m and n represent lengths.

Place a tick in the appropriate column for each expression to show whether the expression can be used to represent a length, an area, a volume or none of these.

Expression	Length	Area	Volume	None of these
$l + m + n$	✓			
mn		✓		
$2\pi m$	✓			

(3)

2. Here are some expressions.

xyz	$x(y + z)$	$3x + y^2$	$x + y$	$x^2 + y^2$
	✓			✓

The letters x, y and z represent lengths.

Two of the expressions could represent areas.
Tick the boxes underneath these two expressions.

(2)

3. This table shows some expressions.

The letters l, m and n represent lengths.

Place a tick in the appropriate column for each expression to show whether the expression can be used to represent a length, an area, a volume or none of these.

Expression	Length	Area	Volume	None of these
abc			✓	
2a + 2b	✓			
$a^2 + c$				✓

(3)

4. In the expressions in the table x, y and z represent lengths.

	Expression	Length	Area	Volume	None of these
A	yz		✓		
B	x + yz				✓
C	x^3			✓	
D	xy(x + z)			✓	

(a) Complete the table to show whether each expression could represent a length, an area, a volume or none of these.

(2)

(b) Explain your answer for expression B.

x is a length, yz is an area.
Therefore adding these would be inconsistent.

(1)

5. In each of these expressions x, y and z represent lengths.

State whether each expression could represent a length (L), an area (A), a volume (V), none of these (N).

xyz could represent ..... V .....

$yz(x + y^2)$ could represent ..... N .....

$xy + xz$ could represent ..... A .....

x^2y could represent ..... V .....

(4)

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6. In each of these expressions x, y and z represent lengths.

State whether each expression could represent a length (L), an area (A), a volume (V), none of these (N).

(a)

x^2y^2 could represent ..... N .....

(b)

$\frac{x^2 + y^2}{z}$ could represent ..... L .....

(c)

$\frac{y + z}{z}$ could represent ..... N .....

(3)

7. The table below shows some expressions.

a, b and c represent lengths.

r	A	A	N	L	A
$2c^3$	$\frac{\pi c^3}{a}$	πac	$bc + a$	$2\pi(a + c)$	$5(a + b)^2$
	✓	✓			✓

Tick three expressions that represent areas.

(3)