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1.1 Measurements in Physics

Easy

PHYSICS

IB HL

1.1 Measurements in Physics

Question Paper

Course	DP IB Physics
Section	1. Measurement & Uncertainties
Topic	1.1 Measurements in Physics
Difficulty	Easy

Time allowed: 20

Score: /10

Percentage: /100

Question 1

Which product-pair of metric multipliers has the greatest magnitude?

A. pico × mega

B. nano × kilo

C. micro × giga

D. milli × tera

[1 mark]

Question 2

Which of the following values is not given to 3 significant figures?

A. 4.00×10^2

B. 5190

C. 6230.00

D. 503 00

[1 mark]

Question 3

Which line in the table shows the metric multipliers in order of increasing value?

A.	μ	c	k	G	M
B.	G	T	n	c	p
C.	k	n	M	T	G
D.	p	n	c	G	T

[1 mark]

Question 4

Which of the following is not an SI base unit?

A. volt

B. kilogram

C. kelvin

D. mole

[1 mark]

Question 5

What are the SI base units for frequency, *f*?

A. s

B. s^{-1}

C. s^{-2}

D. s^{-3}

[1 mark]

Question 6

A physicist measured the reaction time of a person pushing a buzzer to be 0.00289354 s.

Which answer gives the measurement to 4 significant figures?

A. 0.0028

B. 0.002893

C. 0.003

D. 0.0028935

[1 mark]

Question 7

What are the SI base units for gravitational field strength, g?

A. N

B. $m\,s^{-2}$

C. $N\,kg^{-1}$

D. $J\,kg^{-1}$

[1 mark]

Question 8

Some physical quantities can be measured directly, whereas others can only be estimated.

Which of the following rows in the table is correct?

	Physical Quantity	Measurable or estimated
A.	length of a football field	estimated
B.	age of the universe	measurable
C.	potential difference of a mains supply	estimated
D.	speed of sound	measurable

[1 mark]

Question 9

The length of a bacterium is approximately 2×10^{-6} m, and the distance from Earth to the Moon is approximately 3.8×10^{8} m.

How many orders of magnitude greater is the distance from Earth to the Moon than the length of a bacterium?

A. 10^{2}

B. 10^{6}

C. 10^{14}

D. 10^{22}

[1 mark]

Question 10

Cape Town is 9 700 000 m from London.

What is the order of magnitude of this distance?

A. 10^6

B. 10^7

C. 10^8

D. 10^9

[1 mark]