Name:	Target Grade:	Actual Grade:

BRIGHT CULTURE

MEASUREMENT
MCQ

READ THESE INSTRUCTIONS FIRST

INSTRUCTIONS TO CANDIDATES

1. Find a quiet, comfortable spot free place from distractions.

2. Spend one minute on each mark.

3. Time yourself for every single question.

4. Every chapter has their own question types. Ensure that you know the different question type for each chapter.

5. Make a conscientious effort to remember your mistakes, especially in terms of answering techniques. E.g Take a picture for the mistakes that you made, keep it in a photo album, and revise it over and over again.

6. Highlight question types that you tend to keep making mistakes and review them nearing exams.

7. Always review the common questions and question type that you tend to make mistakes nearing exams.

8. During exams, classify the question type and recall what you have learnt, how you need to analyse the questions for the different question type, what you need to take note of and answer with the correct answering techniques!

✨ **Wishing you all the best for this test!**

You've got this!

💡 **With lots of love,**
Bright Culture 💛

GOOD LUCK FOR YOUR EXAM!

MARKS

MEASUREMENT MCQ

1 Diagram 1 shows the reading on a pair of vernier calipers when the jaws are closed.
Diagram 2 shows the reading when a rectangular block is placed between its jaws.

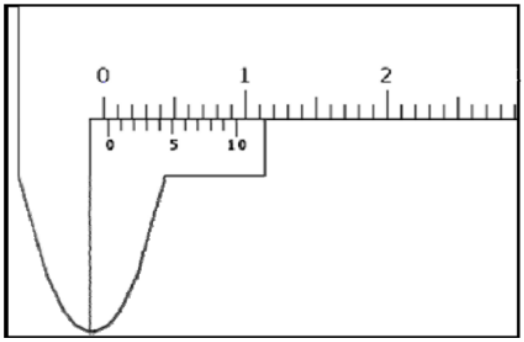


Diagram 1

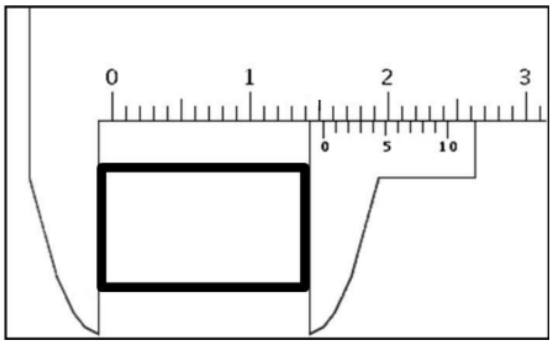


Diagram 2

What is the length of the block?

A 14.0 mm **B** 15.0 mm

C 15.3 mm **D** 15.8 mm

2 Express the unit joule (J) in terms of SI base units.

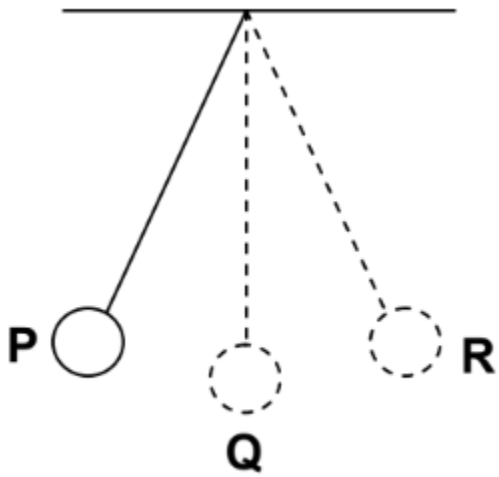
A kg m2 s-2 **B** kg m s-2

C kg m2 s2 **D** kg m s2

3 A student measures the length and the diameter of a metal rod using a metre rule and a micrometer screw gauge respectively.
Which of the following shows the readings recorded to the correct precision?

	Length /cm	diameter / mm
A	23	8.2
B	23.2	8.2
C	23	8.23
D	23.2	8.23

4 A simple pendulum oscillates between P and R with a frequency of 1.74 Hz.



What is the time it takes to move from Q to R?

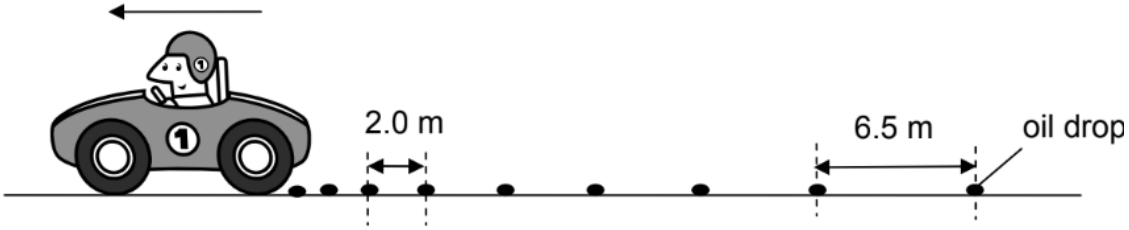
A 0.144 s

B 0.288 s

C 0.435 s

D 0.575 s

5 A car has a hole in its petrol tank and petrol is dripping out of the tank at a constant rate.



If the petrol is dripping at a constant rate of 4 drops every 5 seconds, calculate the average acceleration of the car.

A - 0.48 m s-2

B - 0.58 m s-2

C 0.48 m s-2

D 0.58 m s-2

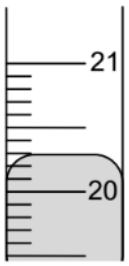
6 What is the volume of mercury in the measuring cylinder shown?

A 20.3 cm3

B 23.0 cm3

C 20.28 cm3

D 20.30 cm3



7 The diameter of a ball bearing is measured using a micrometer screw gauge.

Fig. 2.1 shows the scales of the micrometer with its jaws closed and Fig. 2.2 shows the scales when the ball bearing is gripped between its jaws.

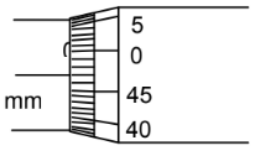


Fig. 2.1

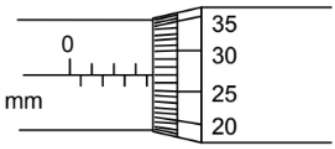


Fig. 2.2

What is the diameter of the ball bearing?

A 3.30 mm

B 3.74 mm

C 3.80 mm

D 4.24 mm

8 Which of the following instruments is/are the correct instrument(s) for measuring weight?

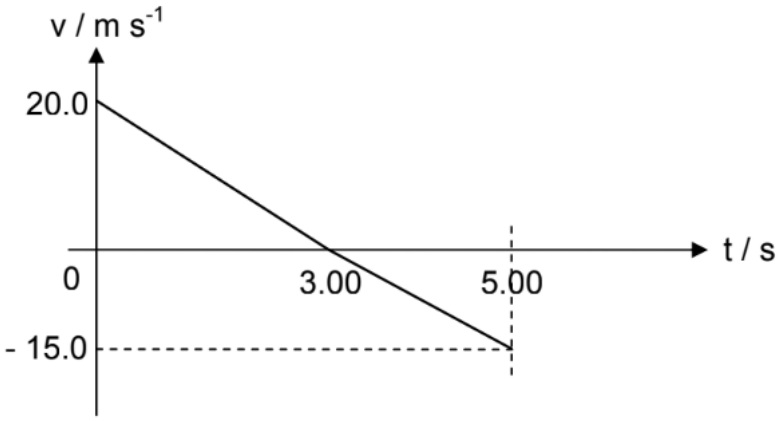
A spring balance

B beam balance

C electronic balance

D spring and electronic balance

9 The velocity-time graph of a ball rolling up a smooth incline is shown below.



The average speed of the ball in the 5.00 s of motion is

A 3.00 m s-1

B 9.00 m s-1

C 17.5 m s-1

D 18.0 m s-1

10 Which pair of units both measure the same quantity?

A Pa and N m-3

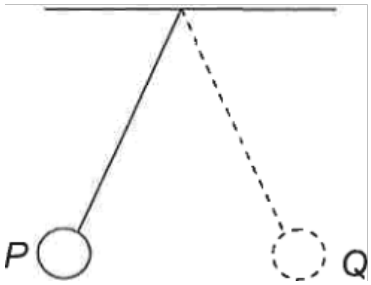
B W and J C-1

C V and J s-1

D N and kg m s-2

11 A simple pendulum oscillates between P and Q with a frequency of 1.2 Hz.

How many complete oscillations does the pendulum make in one minute?



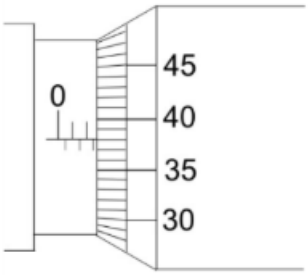
A 12

B 50

C 72

D 144

12 A bomb fragment was found at a terrorist crime scene. The diagram below shows the measurement of the fragment's width using a micrometer screw gauge.



What is the width of the bomb fragment?

A 0.38 cm **B** 2.88 cm

C 0.38 mm **D** 2.88 mm

13 The unit of work done is the joule (J).

Which of the following is the correct expression for the unit of work done?

A kg m2 s-2

B kg m2 s-1

C kg m s-2

D kg m s-1

14 What is the correct order of magnitude for the diameter of an atom and for the diameter of the Earth?

	diameter of atom	diameter of Earth
A	0.1 μm	10 Mm
B	0.1 nm	10 Mm
C	0.1 μm	10 Gm
D	0.1 nm	10 Gm

15 Fig. 1a shows the jaws of a vernier caliper when nothing is clamped between its jaws.

Fig. 1b shows the jaws of the same vernier caliper when 3 coins are clamped between its jaws to measure their thickness.

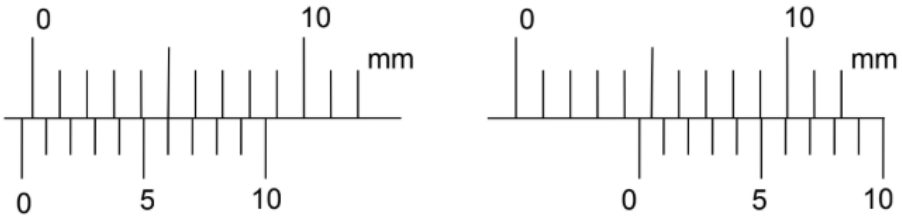
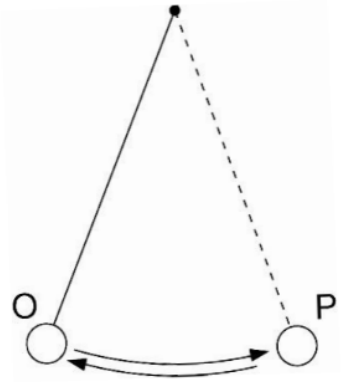


Fig. 1a Fig. 1b

What is the thickness of one coin?

A 1.4 mm **B** 1.5 mm **C** 1.6 mm **D** 3.0 mm

16 It takes 27.6 s for a pendulum to swing from O to P and back again forty times as shown below.



What is the period of the pendulum?

A 0.345 s

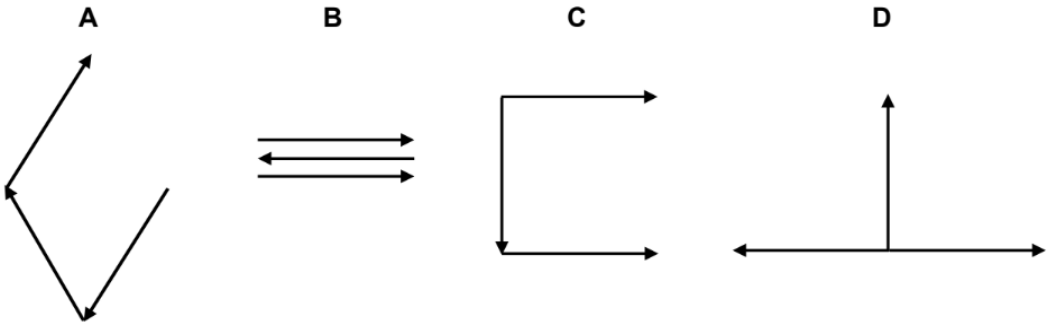
B 0.690 s

C 1.38 s

D 4.60 s

17 Each diagram shows three vectors of equal magnitude.

In which diagram is the magnitude of the resultant vector different from the other three?



18 Which group contains three vector quantities?

A velocity, acceleration, power

B displacement, acceleration, force

C force, work done, pressure

D displacement, velocity, pressure

19 A glass of pure water has an ice cube (also of pure water) in it. How (if at all) will the water level in the glass change as the ice cube begins to melt?

A The level will remain the same.

B The level will go down.

C The level will go up.

D The level will go down at first, and then go up.

20 Which of the following physical quantities is not correctly matched to an equivalent unit?

	physical quantity	unit
A	current	$C\ s^{-1}$
B	energy	$kg\ m^2\ s^{-2}$
C	voltage	$J\ C^{-1}$
D	power	$J\ s$

21 Which list of physical quantities contains only vectors?

A mass, speed, time

B weight, velocity, friction

C weight, acceleration, temperature

D temperature, time, weight

ANSWERS FOR MEASUREMENT MCQ

Q1: B	Q11: C	Q21: B
Q2: A	Q12: D	
Q3: D	Q13: A	
Q4: A	Q14: B	
Q5: B	Q15: C	
Q6: D	Q16: B	
Q7: C	Q17: C	
Q8: A	Q18: B	
Q9: B	Q19: A	
Q10: D	Q20: A	