

O Level Combined Physics MCQs

Physical Quantities, Units and Measurements Test 1.0

Q1

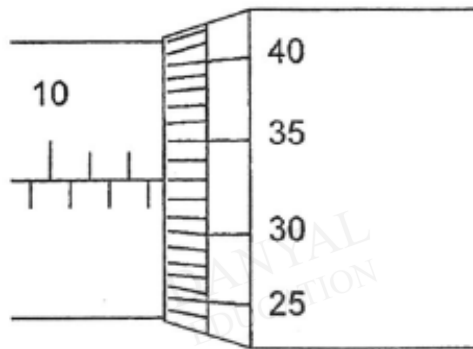
The lengths of four different objects were measured.

Which measurement is the **shortest** length?

- | | | | |
|---|-------------------------|---|-------------------|
| A | 3.2 cm | B | 320 μm |
| C | 3.2×10^{-4} km | D | 3.2 m |

Q2

A student used a micrometer screw gauge to measure the thickness of a metal sheet. The diagram below shows part of the micrometer.



What is the thickness of the metal sheet?

- | | | | |
|-----|----------|-----|----------|
| (A) | 10.33 mm | (C) | 12.83 mm |
| (B) | 12.33 mm | (D) | 15.33 mm |

Q3

A pendulum clock uses the period of its oscillation to tell time.

Which one of the following does not affect its accuracy?

- 1 the length of the pendulum
- 2 the mass of the pendulum
- 3 the gravitational field strength of the clock's location
- 4 the material of the pendulum

- | | |
|---|---------|
| A | 1 only |
| B | 2 only |
| C | 2 and 3 |
| D | 2 and 4 |

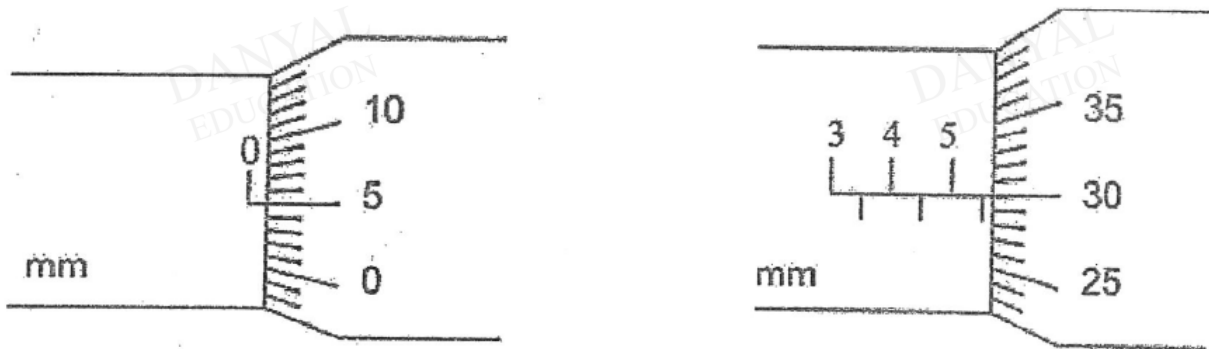
Q4

The order of magnitude of a human hair is

- A 100 μm B 1.00 mm C 1.0 cm D 1.0 m

Q5

The diagram on the left shows the micrometer reading when the jaws are closed with no ball-bearing. The diagram on the right shows the micrometer reading when the jaws are closed around the ball bearing.



The diameter of the ball bearing is _____.

- A 5.85 mm B 5.75 mm C 2.93 mm D 2.88 mm

Q6

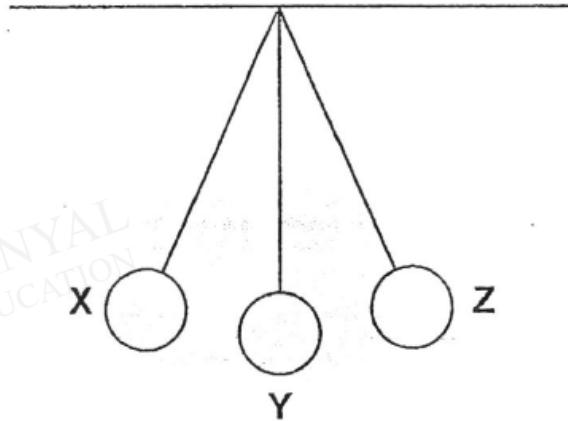
Three pendulums P, Q and R have the same length. The mass of pendulum P is 1.0 kg, pendulum Q is 10 kg and pendulum R is 100 kg.

Given that the effect of air resistance is negligible, which of the following statements is true?

- A They will have the same period.
B Pendulum P will oscillate the fastest.
C Pendulum R will oscillate the fastest.
D All three pendulums will oscillate at different periods.

Q7

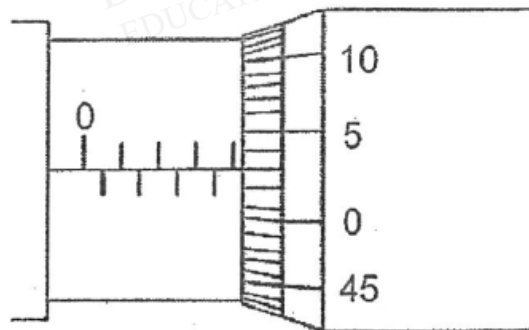
A simple pendulum swings from X through Y to Z. The time to go from X to Z is 3.0 s.
What is the frequency of the pendulum?



- A 0.167 Hz B 0.333 Hz C 3.00 Hz D 6.00 Hz

Q8

When a micrometer screw gauge is used to measure the thickness of a disc, it is as shown below.

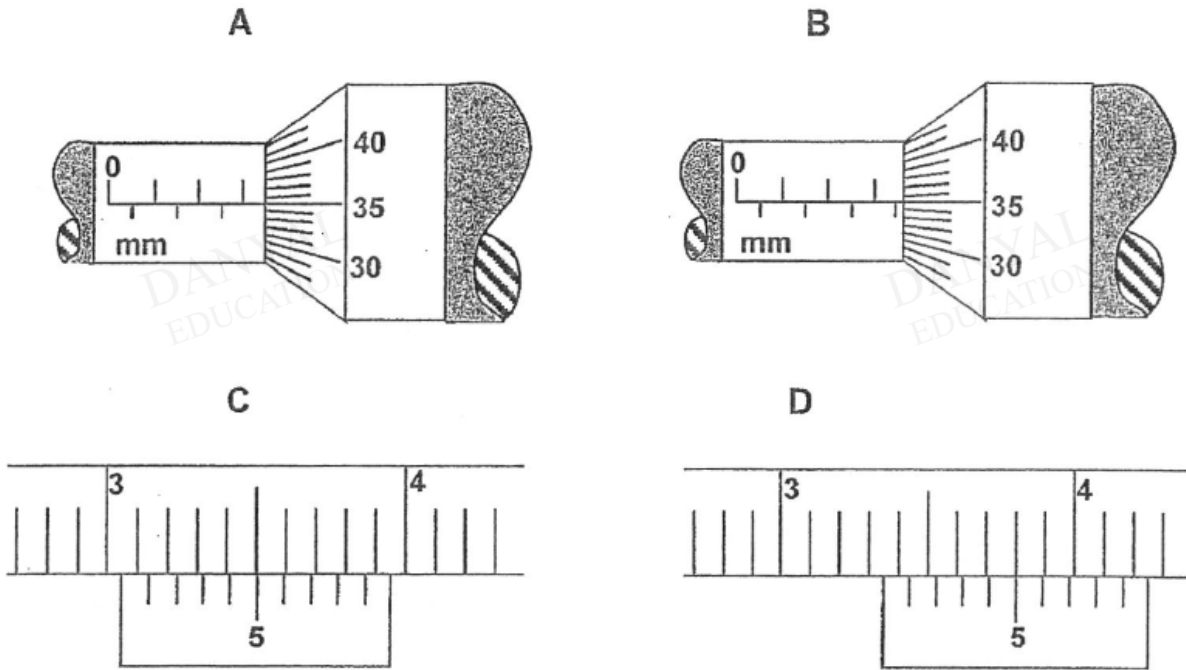


What is the thickness of the disc?

- A 4.03 mm B 4.53 mm C 8.03 mm D 8.53 mm

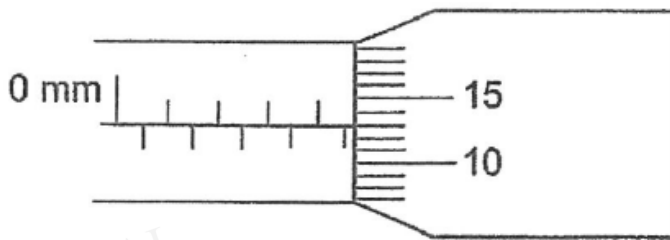
Q9

The following diagrams show part of a micrometer screw gauge and part of a Vernier caliper. Which one shows a reading of 33.5 mm?



Q10

In the diagram below, a micrometer is used to measure the diameter of a ball bearing



The corrected reading is 4.65 mm.

What is the zero error of this micrometer?

- | | | | |
|---|----------|---|----------|
| A | -0.52 mm | B | -0.02 mm |
| C | +0.02 mm | D | +0.52 mm |

Answers

Physical Quantities, Units and Measurements Test 1.0

- Q1 B
- Q2 C
- Q3 D
- Q4 A
- Q5 B
- Q6 A
- Q7 A
- Q8 A
- Q9 D
- Q10 B

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