

U5 A Level Physics Preparation Assessment - Answers

1. What is 620000 written in standard form?

6.2×10^3

62×10^4

6.2×10^5

2. What is 0.0072 written in standard form?

72×10^{-4}

7.2×10^{-3}

7.2×10^{-3}

3. What is $10^3 \times 10^{-8}$

10^{11}

10^5

10^{-5}

4. What is $10^3/10^{-8}$

10^5

10^{-5}

10^{11}

5. What does the prefix M stand for?

10^6

10^3

10^9

6. What does the prefix m stand for?

10^3

10^{-3}

10^{-6}

7. How many nanometres are there in a km?

10^{12}

10^{-12}

10^9

8. What is the SI unit of mass?

g

kg

mg

9. $F=ma$ is a very important equation in Physics. What are the base SI units of Force?

N

kgm/s

kgm/s²

10. The units of density are kg/m^3 . This can also be written as:

mkg^{-3}

kgm⁻³

$(\text{kgm})^{-3}$

11. What is the best definition of the word Accuracy:

How close your result is to the true value

How repeatable your results are

How many decimal places you give your result to

12. Which of these is a systematic error?

Parallax

Digital scales that are not zeroed correctly

Reaction time

13. How can you best reduce random errors?

Replace the equipment

Calibrate the equipment

Repeat the experiment and average your results

14. Which of these sets of digital scales will have the lowest absolute uncertainty?

Scales that can measure up to 1 kg to the nearest μg

Scales that can measure up to 1 kg to the nearest g

Scales that can measure up to 1 kg to the nearest mg

15. A stopwatch measures a time of $20\text{s} \pm 0.1\text{s}$. What is the percentage uncertainty in the reading?

5%

0.5%

0.05%

16. A runner runs a race. The distance measured was $400\text{m} \pm 5\text{m}$ and the time measured was $48\text{s} \pm 0.3\text{s}$. What is the percentage uncertainty in the average speed?

0.625%

0.78%

1.875%

17. One of the equations of motion is $v^2 = u^2 + 2as$. Make u the subject:

$u = \sqrt{v^2 - 2as}$

$u = \sqrt{v^2} - \sqrt{2as}$

$u = \sqrt{2as - v^2}$

18. The equation of a straight line is $y = mx + c$. Make c the subject:

$c = y / mx$

$c = mx - y$

$c = y - mx$

19. What is $1/1/x$

$1/x$

~~x~~

x^2

20. What is $1/2R + 2/3R$?

$7/6R^2$

$3/5R$

$7/6R$