

Section A

What is 23.333 written to three significant figures?

- ☐ A: 23.3
- ☐ B: 23.4
- ☐ C: 23.0
- ☐ D: 23.333

2) What is 23.333 written to two decimal places?

- ☐ A: 23.3
- ☐ B: 23.33
- ☐ C: 23.333
- ☐ D: 23.34

3) What is 55.2 written to two decimal places?

- ☐ A: 55.20
- ☐ B: 55.22
- ☐ C: 55
- ☐ D: 55.00

4) What is 55.2 written to one significant figure?

- ☐ A: 55.0
- ☐ B: 5.52
- ☐ C: 5
- ☐ D: 50

5) What is 6.66 written to two significant figures?

- ☐ A: 6.66
- ☐ B: 6.60
- ☐ C: 6.6
- ☐ D: 6.7

6) What is 0.09111 written to three significant figures?

- ☐ A: 0.09
- ☐ B: 0.0911
- ☐ C: 0.0912
- ☐ D: 0.0900

7) Which of these is the most appropriate answer to 55.0×32.5 ?

- ☐ A: 1787
- ☐ B: 1780
- ☐ C: 1790
- ☐ D: 1800

8) Which of these is the most appropriate answer to $1 \div 3$?

- ☐ A: 0.333
- ☐ B: 0
- ☐ C: 0.4
- ☐ D: 0.3

9) Which of these is the most appropriate answer to $12.0 \div 3.0$?

- ☐ A: 4.0
- ☐ B: 4
- ☐ C: 4.00
- ☐ D: 0.4

Section B

Draw one line from each quantity to match it to the standard unit that it must be converted to before being used in a calculation

Quantity

Mass
Force
Energy
Power
Frequency
Velocity
Acceleration
Momentum
Wavelength
Gravity

Unit

Abbreviation

Newton	N
Watt	W
kilogram	kg
Joule	J
metres per second squared	m/s ²
Hertz	Hz
Newtons per kilogram	N/kg
metres per second	m/s
metres	m
kilogram metres per second	kgm/s

How to convert times

Convert each of these times into seconds

	time	abbreviation
	week	wk
	day	d
	hour	h
	minute	min
	Second, s	
	millisecond	ms

2 min	250 ms
4 hr	0.5 hr
1 day	0.1 ms
0.25 hr	0.5 min

Fill the gaps in this chart detailing how to convert between different metric prefixes

	prefix	abbrevia- tion
		T
	giga-	
		k
	Standard unit. e.g. m	
	milli-	m
	micro-	
		p

Convert each of these values into standard units.

500 mm	0.3 km
250 μm	5 GHz
50 mA	12 ms
770 nm	8 MW



Section C

REVQ1.1a
A student correctly estimated the length of a bee.
The length of a bee is about 2.0

☐ A mm
☐ B cm
☐ C m
☐ D km

(1)

REVQ1.1b
A runner takes 82.5 seconds to run around a 400.0 m running track.
Calculate the runner's average speed, giving your answer to a suitable number of significant figures.

Use the equation
average speed = distance ÷ time

(3)

REVQ1.1c
A different runner completes a 10 km race in a time of 75 minutes.
Calculate the runner's average speed.

Use the equation
average speed = distance ÷ time

(3)

speed = m/s

speed = m/s

REVQ1.1d
Show that a speed of 110 km/h is more than a speed of 27 m/s

(2)

REVQ1.1e
Calculate the weight of a van that has a mass of 4500 kg.
Give your answer to two significant figures and include the unit.
Gravitational field strength on Earth = 10 N/kg.

Use the equation
weight = mass × gravitational field strength

(3)

REVQ1.1f
A student correctly estimated the diameter of an atom
The diameter of an atom is about 0.1

weight = unit

(1)

☐ A Gm
☐ B μm
☐ C mm
☐ D nm

Section D

REVQ1.1g
A teacher uses a red laser pointer.
The light emitted by the laser pointer has a wavelength of 650 nm.
The light travels at a speed of 3.0×10^8 m/s.
Calculate the frequency of the light, giving your answer to 1 decimal place.

Use the equation
wave speed = frequency × wavelength

(3)

REVQ1.1h
A student correctly calculated the speed of light in a vacuum.
The speed of light in a vacuum is about 300

frequency = unit

(1)

☐ A Gm/s
☐ B mm/s
☐ C km/s
☐ D Mm/s

REVQ1.1i
The circumference of the Earth is roughly 4×10^7 m.
In the movie *Superman* it takes *Superman* 20×10^{-3} s to fly around the Earth.
Calculate *Superman's* average speed when he flies around the Earth

Use the equation
average speed = distance ÷ time

speed = m/s

ACROSS

3. the number of hours in 10800 s (5)
7. the standard unit for force (6)
8. measured in m/s² (12)

DOWN

1. 1.1666 is a number written to decimal places (4)
2. measured in Hz (9)
4. the standard unit for power (4)
5. the number of seconds in a minute (5)
6. the standard unit for mass (8)

