MULTIPLE CHOICE. Choose the one alternative that best completes the statement or answers the question.

1)
The current definition of the standard meter of length is based on

1)

_____

A)
the length of a particular object kept in France.

B)
the distance traveled by light in a vacuum.

C)
the distance between the earth's equator and north pole.

D)
the distance between the earth and the sun.

2)
The current definition of the standard second of time is based on

2)

_____

A)
the oscillation of a particular pendulum kept in France.

B)
the duration of one year.

C)
the frequency of radiation emitted by cesium atoms.

D)
the earth's rotation rate.

3)
The current definition of the standard kilogram of mass is based on

3)

_____

A)
the mass of the sun.

B)
the mass a particular object kept in France.

C)
the mass of the earth.

D)
the mass of a cesium-133 atom.

4)
If a woman weighs 125 lb, her mass expressed in kilograms is x kg, where x is

4)

_____

A)
greater than 125.

B)
less than 125.

5)
If a tree is 15 m tall, its height expressed in feet is x ft, where x is

5)

_____

A)
greater than 15.

B)
less than 15.

6)
If a flower is 6.5 cm wide, its width expressed in millimeters is x mm, where x is

6)

_____

A)
less than 6.5.

B)
greater than 6.5.

7)
If an operatic aria lasts for 5.75 min, its length expressed in seconds is x s, where x is

7)

_____

A)
less than 5.75.

B)
greater than 5.75.

8)
Scientists use the metric system chiefly because it is more accurate than the English system.

8)

_____

A)

True

B)

False

9)

When adding two numbers, the number of significant figures in the sum is equal to the number of significant figures in the least accurate of the numbers being added.

9)

_____

A)

True

B)

False

10)

When determining the number of significant figures in a number, zeroes to the left of the decimal point are never counted.

10)

_____

A)

True

B)

False

11)

Convert 1.2×10^{-3} to decimal notation.

11)

_____

A)

1.200

B)

0.1200

C)

0.0120

D)

0.0012

E)

0.00012

12)

Write out the number 7.35×10^{-5} in full with a decimal point and correct number of zeros.

12)

_____

A)

0.00000735

B)

0.0000735

C)

0.000735

D)

0.00735

E)

0.0735

13)

0.0001776 can also be expressed as

13)

_____

A)

1.776×10^{-3}.

B)

1.776×10^{-4}.

C)

17.72×10^{4}.

D)

1772×10^{5}.

E)

177.2×10^{7}.

14)

0.00325×10^{-8} cm can also be expressed in mm as

14)

_____

A)

3.25×10^{-12} mm.

B)
3.25×10^{-11} mm.
C)
3.25×10^{-10} mm.
D)
3.25×10^{-9} mm.
E)
3.25×10^{-8} mm.

15)
If, in a parallel universe, π has the value 3.14149, express π in that universe to four significant figures.

15)

_____
A)
3.141

B)

3.142

C)

3.1415

D)

3.1414

16)
The number 0.003010 has

16)

_____
A)
7 significant figures.

B)

6 significant figures.
C)
4 significant figures.

D)

2 significant figures.

17)

What is $\frac{0.674}{0.74}$ to the proper number of significant figures?

17)

_____

A)
0.9108

B)

0.9

C)

0.911

D)

0.91

18)
What is the value of $\pi(8.104)^2$, written with the correct number of significant figures?

18)

_____

A)
206.324

B)

206.323

C)

206.3

D)

206

E)

200

19)
What is the sum of 1123 and 10.3 written with the correct number of significant figures?

19)

_____

A)
1133.3000

B)

1.13×10^3

C)

1.1×10^3

D)

1133

E)

1133.3

20)
What is the sum of 1.53 + 2.786 + 3.3 written with the correct number of significant figures?

20)

_____
A)
8

B)

7.6

C)

7.62

D)

7.616

E)

7.6160

21)
What is the difference between 103.5 and 102.24 written with the correct number of significant figures?

21)

_____
A)
1