

Name _____

TRUE/FALSE. Write 'T' if the statement is true and 'F' if the statement is false.

- 1) 0.0047 amps can be expressed in metric units as 47 μ A. 1) _____
Answer: True False
- 2) 0.00015 can be expressed in powers of ten as 1.5×10^{-4} . 2) _____
Answer: True False
- 3) The symbol μ is an abbreviation for 10^{-6} or *micro*. 3) _____
Answer: True False
- 4) Scientific notation is the most widely used form of technical notation in electronics. 4) _____
Answer: True False
- 5) Engineering notation is typically used in the expression of extremely large and small quantities in the electronics field. 5) _____
Answer: True False
- 6) In engineering notation, 82,500 is expressed as 8.25×10^3 . 6) _____
Answer: True False
- 7) In engineering notation 0.0047 is expressed as 4.7×10^{-3} . 7) _____
Answer: True False

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

- 8) The electrical symbol for inductance is _____. 8) _____
A) V B) L C) I D) C
Answer: B
- 9) The symbol for electrical charge is _____. 9) _____
A) C B) Q C) I D) V
Answer: B
- 10) The value 1.2×10^{-6} can be expressed as _____. 10) _____
A) 1.2 M or Meg B) 1.2 m or milli C) 0.00012 D) 1.2 μ or micro
Answer: D
- 11) If your calculator displays 3.45607×10^6 , the equivalent metric value with 4 significant digits is _____. 11) _____
A) 3.456 kilo B) 3.456 micro C) 3.456 Mega D) 34.56 Mega
Answer: C

- 12) The metric value 16 mA can be expressed as _____. 12) _____
 A) 16×10^0 A B) 16×10^{-3} A C) 16×10^3 A D) 16×10^{-6} A
 Answer: B
- 13) To enter 0.00000056 into your calculator, use the entry _____. 13) _____
 A) 56 -06 B) 00056 -05 C) 56 -08 D) 5.6 -08
 Answer: C
- 14) Determine the correct calculation. 14) _____
 A) $4.7 \text{ m} \div 1.24 = .379 \text{ m}$ B) $89.4 \text{ k} \times 1.2 \text{ m} = 1.072 \text{ km}$
 C) $5600 \times (9.6 \times 10^{-7}) = 5.376 \text{ milli}$ D) $5.6 \div 17 \text{ m} = 32.9 \text{ m}$
 Answer: C
- 15) The correct metric expression for 8.54×10^{-5} is _____. 15) _____
 A) 85.4 micro B) 85.4 kilo C) 85.4 milli D) 854 pico
 Answer: A
- 16) If you are trying to enter the number 16,000 into your calculator, a correct entry is _____. 16) _____
 A) 1.6 03 B) 1.6 05 C) 1.6 04 D) 1.6 02
 Answer: C
- 17) Express 7.5×10^{-4} in milli, basic units, and micro. 17) _____
 A) 7.5 milli, 0.075, 75000 micro B) 0.75 milli, 0.00075, 750 micro
 C) 75 milli, 0.0075, 750 micro D) 75 milli, 0.075, 7500 micro
 Answer: B
- 18) Express these two calculator displays in correct metric units: 18) _____
5.6 <07 2.2 05
 A) 56 micro, 22 kilo B) 0.56 micro, 0.022 Meg
 C) 56 micro, 220 kilo D) 0.56 micro, 220 kilo
 Answer: D
- 19) The electrical symbol for voltage is _____. 19) _____
 A) R B) V C) C D) I
 Answer: B
- 20) If your calculator displays **3.5 <06**, the equivalent metric value is _____. 20) _____
 A) 3.5 micro B) 35 micro C) 35 milli D) 3.5 pico E) 3.5 Meg
 Answer: A
- 21) Express 5.6×10^{-2} in milli, basic units, and micro. 21) _____
 A) 560 milli, 5.600, 5600 micro B) 5.6 milli, 0.056, 56000 micro
 C) 5600 milli, 56, 560 D) 56 milli, 0.056, 56000 micro
 Answer: D

22) The difference between scientific and engineering notation is _____. 22) _____
A) single vs multiple digits before decimal point
B) groupings of multiple of three digits
C) powers of ten representation
D) all of these

Answer: D

23) Mega is what relation to kilo? 23) _____
A) 10 times B) 100 times C) 1000 times D) 1,000,000 times

Answer: C

24) Pico is what relation to micro? 24) _____
A) 1/10th B) 1/100th C) 1/1,000th D) 1/1,000,000th

Answer: D

25) Convert 0.00047 microfarads (μF) to the equivalent picofarads (pF). 25) _____
A) 470 pF B) 0.47 pF C) 47 pF D) 4.7 pF

Answer: A

26) Add 21 mA and 8000 μA and express the result in milliamperes. 26) _____
A) 21.8 mA B) 290 mA C) 29 mA D) 218 mA

Answer: C

27) Multiply 3 mA by 1000×10^{-6} and express the result in microamperes. 27) _____
A) 30 μA B) 3000 μA C) 3 μA D) 300 μA

Answer: C

28) 500 mA is equal to _____. 28) _____
A) 0.0005 kA B) 500,000 μA C) 0.5 Amps D) all of the above

Answer: D

29) The metric prefix μ (micro) is normally associated with _____ measurements. 29) _____
A) large B) extremely small
C) small D) extremely large

Answer: B

30) 0.6 kV is equal to _____. 30) _____
A) 600 V B) 60 V C) 0.6 V D) 6 V

Answer: A

31) 86,000 expressed in scientific notation equals _____. 31) _____
A) 8.6×10^3 B) 8.6×10^4 C) 8.6×10^{-4} D) 860×10^2

Answer: B