

Exponents Homework



REFERENCES:

Answers:

services.nietc.org

Math.com:

<http://www.math.com/school/subject1/lessons/S1U1L8GL.html>

Khan Academy: (go to khanacademy.com and search for *engineering notation*)

<https://www.khanacademy.org/science/electrical-engineering/introduction-to-ee/intro-to-ee/a/ee-numbers-in-electrical-engineering>

Wikipedia:


https://en.wikipedia.org/wiki/Engineering_notation



QUESTIONS:


1) When the prefix ? is used, it means multiply the number by 1,000.

Answer:

- a. deka
- b. hecto
-  c. kilo
- d. milli


2) When the prefix milli is used, it means multiply the number by ?.

Answer:

- a. 0.1
- b. 0.01
-  c. 0.001
- d. 1,000


3) When converting from a whole number to a prefixed number, ? the whole number by the value of the ?.

Answer:

- a. add / prefix
-  b. divide / prefix
- c. multiply / prefix
- d. multiply / suffix

4) When converting from one prefixed number to another, ? the number by the value of the first prefix and ? that value by the value of the prefix to which you are converting.

Answer:

- a. divide / add
- b. divide / multiply
- c. multiply / add
-  d. multiply / divide

5) Which of the numbers below correctly describes 1,250 volts?

Answer:

- a. 0.00125 MV
- b. 0.125 MV
- c. 1.25 MV
- d. 1,250 MV

6) Which of the numbers below correctly describes 17 mA?

Answer:

- a. 0.17 mA
- b. 0.17 A
- c. 0.0017 kA
- d. 17,000 μ A

7) Which of the numbers below correctly describes 63.45 Mhz?

Answer:

- a. 0.06345 Ghz
- b. 63,450 khz
- c. Both a and b
- d. None of the above

8) Which of the numbers below correctly describes 30.25 ns?

Answer:

- a. 0.03025 μ Sec
- b. 0.03025 mSec
- c. 3.0250 pSec
- d. 302,500 pSec

9) Which of the numbers below correctly describes 5,000 μ f?

Answer:

- a. 0.005 farad
- b. 0.05 farad
- c. 50 mf
- d. 5 farad

10) Which of the numbers below correctly describes 4.7 h?

Answer:

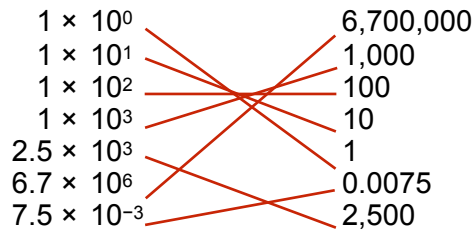
- a. 4,700 mh
- b. 4,700,000 ph
- c. 0.47 kh
- d. 4,700

11) Which of the numbers below correctly describes 25 A?

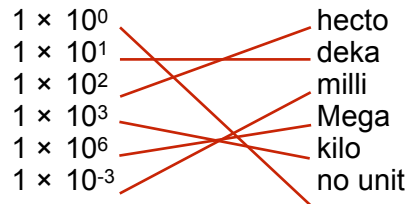
Answer:

- a. 0.025 kA
- b. 0.25 kA
- c. 25,000 μ A
- d. 2,500 mA

12) Draw lines to match the following powers of 10 to the correct numbers:



13) Draw lines to match the following powers of 10 to the correct units:



COMPLETE THE FOLLOWING USING POWERS OF 10:

14) $(6 \times 10^6) \times (5 \times 10^3)$

Answer:

- a. 3,000,000,000 $(6 \times 5) \times 10^{6+3}$
- ➔ b. 30,000,000,000 30×10^9
- c. 300,000,000,000 $30 \text{ giga} =$
- d. 3,000,000,000,000

18) $(6.65 \times 10^3) + (5.35 \times 10^3)$

Answer:

- a. 120 $(6.65 + 5.35) \times 10^3$
- b. 1,200.0 12×10^3
- ➔ c. 12,000.0 $12 \text{ kilo} = 12,000$
- d. 120,000.0

15) $(4.5 \times 10^{-3}) \times (2 \times 10^4)$

Answer:

- ➔ a. 90 $(4.5 \times 2) \times 10^{-3+4}$
- b. 900 9×10^1
- c. 9,000 $9 \text{ deka} = 90$
- d. 90,000

19) $(3.455 \times 10^6) + (5.45 \times 10^5)$

Answer:

- a. 4,000.0 $(0.545 \times 10^6) \text{ from } (5.45 \times 10^5)$
- b. 40,000.0 $(3.455 + 0.545) \times 10^6$
- ➔ c. 400,000.0 4×10^6
- d. 4,000,000.0 $4 \text{ mega} = 4,000,000$

16) $(6 \times 10^6) \div (5 \times 10^3)$

Answer:

- a. 120 $(6 \div 5) \times 10^{6-3}$
- ➔ b. 1,200 1.2×10^3
- c. 12,000 $1.2 \text{ kilo} = 1,200$
- d. 120,000

20) $(6.65 \times 10^4) - (5.35 \times 10^3)$

Answer:

- a. 611.5 **Q20:**
- b. 6,115.0 $(0.535 \times 10^4) \text{ from } (5.35 \times 10^3)$
- ➔ c. 61,150.0 $(6.65 - 0.535) \times 10^4$
- d. 611,500.0 61.15×10^3
 $61.15 \text{ kilo} = 61,150$

17) $(4.5 \times 10^{-3}) \div (2 \times 10^3)$

Answer:

- a. 0.000000225
- ➔ b. 0.00000225 $(4.5 \div 2) \times 10^{-3-3}$
- c. 0.0000225 2.25×10^{-6}
- d. 0.000225 $2.25 \text{ micro} = 0.00000225$