# Math 9 Exponent Practice Test Name:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

1. Complete each Statement
2. Write 243 as a power of 3 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
3. Write using repeated multiplication \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
4. Arrange the following in order from largest value to smallest value.

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

1. When is evaluated, the answer expressed as a fraction is \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
2. (-1) (-4) (-4)(-4) (-4) expressed as a power is \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
3. In the power, the base is \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ and the exponent is \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.  
     
    The ““ represents the number \_\_\_\_\_.
4. Write the following numbers in scientific notation
5. 0.0021 = \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ b) 457.34 =\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
6. Put the following numbers into standard notation
7. =\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ b)
8. Evaluate the following (do not leave in exponential form. Calculate the answer.): (1 mark each)

a)  b) 

c)  d) =

e)  f)=

g) = h) =

1. =

4. Write each expression as a positive power. (1 mark each)

a)  b) 

c)  d) 

e) f)

5. Simplify the following using exponent laws. Express your final answer using positive exponents. (1 mark each)

a)  b) =

c)  d) =

e) f)

g) = h) 

(note: )

i) j) =

k)= l) =

m) n)

o) p) -

6. Each of the following equations has an error. Briefly explain what the error is and provide steps to find the correct answer. (1 mark each)

a)

b) 

c) 

d) 

1. Evaluate by showing steps and applying order of operations if appropriate! (6 marks)

a)

b)

c)

d)

e)

**Word Problems: *Show all Steps and give exponent expression used to solve problem where appropriate.***

8. A formula that approximates the distance an object falls through air in relation to time is **d = 4.9t2**. The distance, d, is measured in metres, and time, t, in seconds. A pebble breaks loose from a cliff. What distance would it fall if it fell for 18 seconds?

9. A population of bacteria doubles every 3 hours. If there are 100 bacteria now, how many will there be after each amount of time? (2 marks)

* 1. 15 hours
  2. 24 hours

10. A cube has a side length of 3 cm. Write an exponent expression for each and then solve. (2 marks)

1. Determine the volume of the cube.
2. Determine the surface area of the cube.