

**REVIEW WORKSHEET STARTS ON PAGE 2**

## **Cumulative Test : Chapter # 1 & 2**

### **Topics to review:**

#### **Chapter # 1-Real Numbers: Algebra Essentials**

1. Classification of Real Numbers(Name all sets of numbers to which each number belongs to).
2. Properties of Real Numbers
3. Differentiating Rational and Irrational Numbers

#### **Chapter # 2- Exponents**

1. Simplify using properties of Exponents
2. Multiplying and Adding Numbers in Scientific Notation

**Review all of Chapter# 1 & 2 (All Concepts mentioned above) for this test. You can also find the class notes and videos in your Cinemath portal.**

**Go to [cinemath.archimedeian.org](http://cinemath.archimedeian.org) to find these resources.**

**Next page you will find few additional practice questions on these topics**

1. Identify whether the number is below is a rational number, an integer, and/or a whole number.

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- ☐ Rational number  
☐ Integer  
☐ Whole number

3. Choose which of the following numbers represent integers (when simplified).

- ☐ 21  
☐ -37  
☐  $-\frac{2}{5}$   
☐  $-\frac{8}{4}$   
☐  $6\sqrt{2}$   
☐  $-\frac{20}{4}$

7. Choose which of the following numbers represent whole numbers (when simplified).

- ☐  $\frac{25}{5}$   
☐  $\frac{6}{3}$   
☐  $\frac{7}{8}$   
☐ 28  
☐  $-\frac{15}{5}$   
☐ -10

9. Identify whether the real number is below is a rational number, an irrational number, an integer, a whole number, and/or a natural number. Pick all that apply.

$-\sqrt{254}$

- ☐ Rational number  
☐ Irrational number  
☐ Integer  
☐ Whole number  
☐ Natural number

2. Identify whether the number is below is a rational number, an integer, and/or a whole number.

0.5

- ☐ Rational number  
☐ Integer  
☐ Whole number

4. Choose which of the following numbers represent whole numbers (when simplified).

- ☐  $5\sqrt{2}$   
☐ 0.4  
☐  $-\frac{10}{2}$   
☐ 20  
☐  $\frac{15}{5}$   
☐ 2.19

8. Determine if the following statement is true or false.

Terminating decimals are all rational numbers

- ☐ True  
☐ False

10. Identify whether the real number is below is a rational number, an irrational number, an integer, a whole number, and/or a natural number. Pick all that apply.

$-\sqrt{289}$

- ☐ Rational number  
☐ Irrational number  
☐ Integer  
☐ Whole number  
☐ Natural number

Match each expression with one of the properties shown.

1. \_\_\_\_\_  $11 + 0 = 11$

2. \_\_\_\_\_  $x \times (y \times z) = (x \times y) \times z$

3. \_\_\_\_\_  $8 + (-8) = 0$

4. \_\_\_\_\_  $14 + 20 = 20 + 14$

5. \_\_\_\_\_  $2 \times \frac{1}{2} = 1$

6. \_\_\_\_\_  $22 \times 1 = 22$

7. \_\_\_\_\_  $(19 + 12) + 8 = 19 + (12 + 8)$

8. \_\_\_\_\_  $a \times 9 = 9 \times a$

9. \_\_\_\_\_  $7(4 + 11) = 7(4) + 7(11)$

a. commutative property of addition

b. commutative property of multiplication

c. associative property of addition

d. associative property of multiplication

e. additive identity

f. multiplicative identity

g. distributive property

h. additive inverse

i. multiplicative inverse

**Simplify. Write each answer in scientific notation.**

1)  $(1.08 \times 10^{-3})(9.3 \times 10^{-3})$

2)  $(2 \times 10^{-4})(8.1 \times 10^{-1})$

3)  $(2.32 \times 10^{-6})(4 \times 10^{-5})$

4)  $(3.48 \times 10^3)(9.8 \times 10^4)$

5)  $(7.1 \times 10^{-5})(6.7 \times 10^{-6})$

6)  $(6 \times 10^3)(9.91 \times 10^0)$

25)  $\frac{6 \times 10^{-3}}{8.08 \times 10^{-2}}$

26)  $(3.5 \times 10^{-2})(9 \times 10^4)$

27)  $(8.8 \times 10^2)(2.25 \times 10^{-2})$

28)  $\frac{1.18 \times 10^{-4}}{3 \times 10^0}$

## Simplify Using Properties of Exponents

$$1) (2x^2y^{-2})^4 \cdot -2y^{-1}$$

$$2) (m^2 \cdot 2m^{-2}n^3)^4$$

$$3) \frac{(2a^4b^2)^4}{a^3b^{-4}}$$

$$27) \frac{4x^0y^{-2}z^3}{4x}$$

$$\frac{z^3}{y^2x}$$

$$28) \frac{2h^3j^{-3}k^4}{3jk}$$

$$\frac{2h^3k^3}{3j^4}$$

$$29) \frac{4m^4n^3p^3}{3m^2n^2p^4}$$

$$\frac{4m^2n}{3p}$$

$$30) \frac{3x^3y^{-1}z^{-1}}{x^{-4}y^0z^0}$$

$$\frac{3x^7}{yz}$$