Real Numbers & Fundamental Theorem of Arithmetic

STUDENT PRACTICE WORKSHEET

Name: _____ Date: _____ Score: _____ / 10

Q1. The Fundamental Theorem of Arithmetic states that every composite number can be uniquely expressed as a product of:

(A) Even numbers
(B) Prime numbers
(C) Rational numbers
(D) Irrational numbers

Calculation / Rough Work Space

Q2. If HCF(a, b) = 12 and a x b = 1800, what is LCM(a, b)?

(A) 120
(B) 150
(C) 180
(D) 200

Calculation / Rough Work Space

Q3. Is $\sqrt{5}$ a rational or irrational number?

(A) Rational
(B) Irrational
(C) Integer
(D) Whole number

Calculation / Rough Work Space

Q4. The decimal expansion of 13 / 125 will terminate after how many decimal places?

(A) 1 place
(B) 2 places
(C) 3 places
(D) 4 places

Calculation / Rough Work Space

Q5. The exponent of 2 in prime factorization of 144 is:

(A) 2
(B) 3
(C) 4
(D) 6

Calculation / Rough Work Space

Q6. The HCF of smallest composite number and smallest prime number is:

(A) 1

(B) 2

(C) 4

(D) 8

Calculation / Rough Work Space

Q7. If p and q are co-prime positive integers, then HCF(p, q) is:

(A) 0

(B) 1

(C) p x q

(D) p + q

Calculation / Rough Work Space

Q8. The product of a non-zero rational number and an irrational number is always:

(A) Rational

(B) Irrational

(C) Zero

(D) Whole number

Calculation / Rough Work Space

Q9. What is the sum of exponents of prime factors in prime factorization of 196?

(A) 2

(B) 4

(C) 6

(D) 8

Calculation / Rough Work Space

Q10. Find HCF of 96 and 404 using prime factorization.

(A) 2

(B) 4

(C) 8

(D) 12

Calculation / Rough Work Space