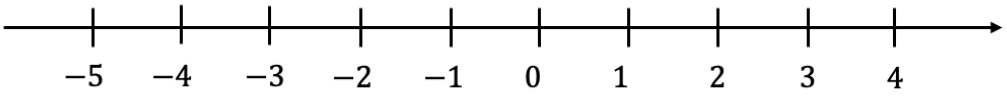
Sec 1 WA1 Mock Test 1
Duration: 30 minutes

20

1 Use the number line given below to illustrate the following numbers. [2]

$$-4.5, \sqrt{9}, 0.8, -1\frac{2}{9}, -\pi$$



2 **(a)** Express 553 as a product of its prime factors.

Answer _____ [1]

(b) Given that $p \times q$ are whole numbers such that p is less then q and $p \times q = 553$, write down all the possible pairs (p, q).

Answer (_____, _____) and (_____, _____) [2]

3 **(a)** Find the prime factorization of 1512, leaving your answer in index notation.

Answer _____ [1]

(b) Hence, explain why 1512 is not perfect cube.

_____

_____

_____ [1]

4 When written as the product of their prime factor factors,

$$495 = 3^2 \times 5 \times 11,$$
$$1848 = 2^3 \times 3 \times 7 \times 11$$
$$3150 = 2 \times 3^2 \times 5^2 \times 7$$

Find

(a) The smallest non-zero whole number that is divisible by 495 and 3150,

Answer _____ [1]

(b) The smallest non-zero integer m for which $495k$ is a multiple of 1848.

Answer _____ [1]

(c) The smallest value of k given that $3150k$ is a perfect square.

Answer _____ [1]

5 The highest common factor of two numbers is 20. The lowest common multiple of these two numbers is 1540. Both numbers are greater than 20. Find the two numbers.

Answer _____ and _____ [3]

6 Evaluate the following, without the use of a calculator.

(a) $-18 + \{6 \times [(-05)^2 + 13]\}$

Answer _____ [2]

(b) $8 - (-30 \div \sqrt[3]{-125} + (-7)$

Answer _____ [2]

7 Three buses; Bus A, Bus B and Bus C offer loop services in Teck Ghee estate. They left Serangoon Terminal at the same time at 6.00 a.m. Bus A takes 18 minutes to complete its loop, Bus B takes 30 minutes to complete its loop and Bus C takes 24 minutes to complete its loop. Find the time that the 3 buses meet at the same time at Serangoon Terminal again.

Answer _____ [3]