

Assignment no: 01

Date: _____

CSS 2025 Q8 (d)

How many prime numbers are between each of the following pairs of numbers?

(a) $\sqrt{3}$ and $\sqrt{120}$

(b) $\sqrt[2]{10}$ and $\sqrt[2]{410}$

(c) $\sqrt[3]{10}$ and $\sqrt[3]{999}$

(d) $\sqrt[3]{28}$ and $\sqrt[3]{120}$

(e) $\sqrt[2]{8}$ and $\sqrt[2]{400}$

Solutions:

(a) $\sqrt{3} = 1.7$

$\sqrt{120} = \frac{120 + 121}{2}$

$2 \sqrt{121}$

$= \frac{120 + 121}{2 \times 11} = \frac{241}{22} = 10.94$

$1.7 \approx 2$

$10.94 \approx 10$

So prime no's b/w 2 and 11 are 2, 3, 5, 7, 11.

$$\begin{array}{r} 10 \\ 21 \overline{) 241} \\ \underline{22} \\ 210 \\ \underline{210} \\ 0 \end{array}$$

(b) $\sqrt[3]{10} = \sqrt{10} \approx 3.16$

$\sqrt[3]{410} = \sqrt{410} \approx 20.24$

List prime numbers = 4 $\rightarrow$ 20
= 5, 7, 11, 13, 17, 19

(c) $\sqrt[3]{10}$ and $\sqrt[3]{999}$

$\sqrt[3]{10} \approx 2.15$

$\sqrt[3]{999} \approx 9.98$

Prime no's btw 3 and 9
= 5, 7

(d) $\sqrt[3]{28}$ and $\sqrt{120}$

$\sqrt[3]{28} \approx 3.04$

$\sqrt{120} \approx 10.98$

Prime numbers between 4 and 10
= 5, 7.

(e) $\sqrt[3]{8}$ and $\sqrt{400}$

$\sqrt[3]{8} \approx 2.83$

$\sqrt{400} = 20$

Prime numbers between
3 and 19

MIGHTY PAPER PRODUCT

= 5, 7, 11, 13, 17, 19