

GIVEN:

BEAKER DIAMETERS = $\frac{1}{2}, \frac{3}{4}, \frac{4}{5}, 1$ & $\frac{5}{4}$ inch

$\frac{10}{20}, \frac{15}{20}, \frac{16}{20}, \frac{20}{20}, \frac{25}{20}$ inch

ADDITIONAL GRADUATED CYLINDER

- DIAMETER = x inch
- WILL NOT CREATE ANY MODES.
- WHEN THIS PIECE IS ADDED TO THE SET THE MEAN WILL BECOME = $\frac{5}{6}$ inch.

∴ THE ADDITION OF THE LAST PIECE WILL NOT CREATE ANY MODES,
i.e. ITS DIAMETER IS NOT THE SAME AS ONE OF THE EXISTING DIAMETERS.

REGARDING THE MEAN;

$$\left(\frac{10}{20} + \frac{15}{20} + \frac{16}{20} + \frac{20}{20} + \frac{25}{20} + x \right) \frac{1}{6} = \frac{5}{6}$$

$$\left(\frac{10 + 15 + 16 + 20 + 25}{20} + x \right) \frac{1}{6} \times 6 = \frac{5}{6} \times 6$$

$$\left(\frac{86}{20} + x \right) = 5$$

$$\left(\frac{86}{20} + x \right) 20 = (5)(20)$$

86

$$+ 20x = 100$$

$$20x = 14$$

$$x = \frac{14}{20} = \frac{7}{10} = 0.7$$