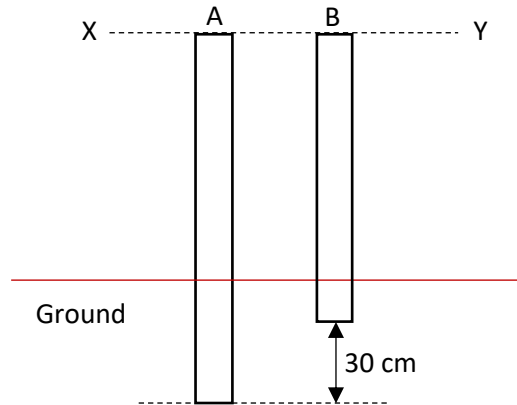In the diagram, $\frac{1}{3}$ of rod A is in the ground and $\frac{1}{8}$ of rod B is in the ground so that both of the rods would be touching the straight line XY. What is the total length of rod A and rod B?

X - - - - - - - - A - - - - - - B - - - - - - - - Y

Ground

30 cm

<< Ratio >>

<Writing>
*Look at the part which is in equal length. The 2 parts above the ground are in the same length.

$1 - \frac{1}{3} = \frac{2}{3}$ → Rod A, above the ground

$1 - \frac{1}{8} = \frac{7}{8}$ → Rod B, above the ground

Hence the length of rod A to the length of rod B is in the ratio of

A : B = $\frac{7}{8}$: $\frac{2}{3}$

      = 21 : 16

21 − 16 = 5 (units)   → It corresponds to 30 cm.
30 cm ÷ 5 = 6 (cm)   → 1 unit
6 (cm) × 21 = 126 (cm)   → rod A
6 (cm) × 16 = 96 (cm)   → rod B
126 (cm) + 96 (cm) = 222 (cm) = 2 m 22 cm

Answer 2 m 22 cm