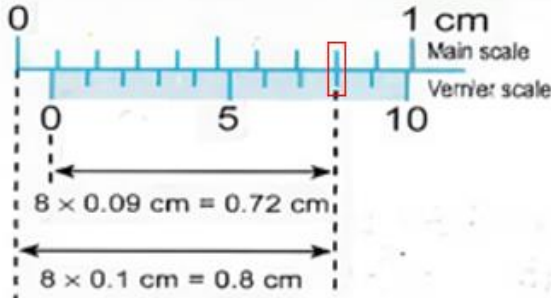
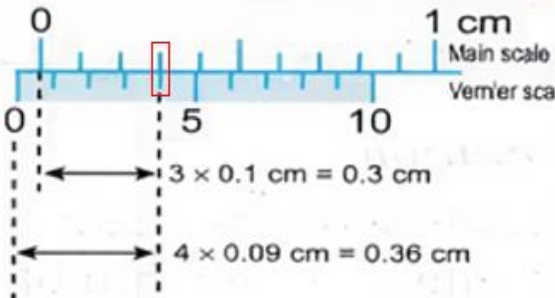


Viva Voice/ Exercise

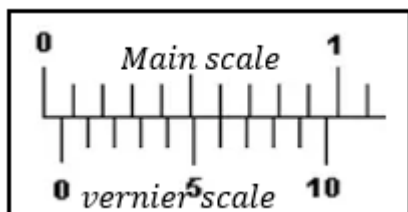
1. What do you mean by vernier constant?
2. What is the least count of vernier callipers? How do we find it?
3. How will the least count of vernier calliper change if number of divisions in vernier scale is doubled?
4. In an experiment using a vernier calliper, how will be the measurement affected if we ignore the reading in the vernier scale?
5. How can we increase the sensitivity of a vernier calliper?
6. What is the use of vernier scale in a vernier calliper? Does it have its unit?
7. In an experiment using vernier calliper with vernier constant 0.01 cm, a student recorded the length of a rod to be 12.10 cm. Is this reading correct? Justify.
8. In an experiment using vernier calliper with vernier constant 0.01 cm, a student recorded the volume of a rod to be 3.678 cm^3 . Is this measurement correct? Justify.
9. A student recorded the length of a rod to be 25.89 cm. Is he correct in his observation?
10. Why is it necessary to take a number of readings for same physical quantity in measurement?
11. In a vernier calliper, main scale has 20 divisions within 1 cm length. If the number of divisions in vernier scale is 50, calculate its vernier constant and its least count.
12. When is zero error in a vernier calliper positive? How will you correct it?

The zero error in a vernier calliper is calculated as:

Positive Zero error	Negative Zero error
	
<p><i>The eight division of vernier scale coincides with any division on the main scale.</i></p> <p><i>Therefore, zero error = + 8 × LC</i></p> <p><i>And correction = -8 × LC</i></p>	<p><i>The fourth division of vernier scale coincides with any division on the main scale.</i></p> <p><i>Therefore, zero error = -(10 - 4) × LC</i></p> <p><i>And correction = +6 × LC</i></p>

➤ In the given cases, estimate the zero error. Also suggest the required correction.

a.



b.

