**Problem 3**

RF = 1/32,00,000

Maximum length to be measured = 400 km

⸫ Length of scale = 

**257 km**

**10**

**KILOMETERS**

**0**

**100**

**200**

**300**

**100**

**0**

**5**

**50**

**KILOMETERS**

**KILOMETERS**

**Problem 4**

85

25

25

70

Φ40

Φ20

50

25

25

15

25

20

50

20

40

**Problem 5**

RF = 1/2.5  
Maximum length to be measured = 4 dm => Length of scale =   
LC of main scale = 0.1 dm

Forward Vernier: 9 MSD = 10 VSD => 1 VSD = 0.9 dm = 9 mm

Mark on scale: 2.65 dm = 3.1 dm - 0.45 dm (i.e. 31 MSD - 5 VSD)

**2.65 dm**

**MILLIMETERS**

**45**

**0**

**90**

**0**

**10**

**2**

**3**

**5**

**CENTIMETERS**

**4**

**DECIMETERS**

**RF = 1/2.5**VERNIER SCALE SHOWING DECIMETERS, CENTIMETERS AND MILLIMETERS