

IE-352

Section 1, CRN: 48700/1/2

Section 2, CRN: 48703/4/5

Section 3, CRN: 48706/7/8

Second Semester 1434-35 H (Spring-2014) – 4(4,1,2)

“MANUFACTURING PROCESSES – 2”

Tuesday, February 25, 2013 (25/04/1435H)

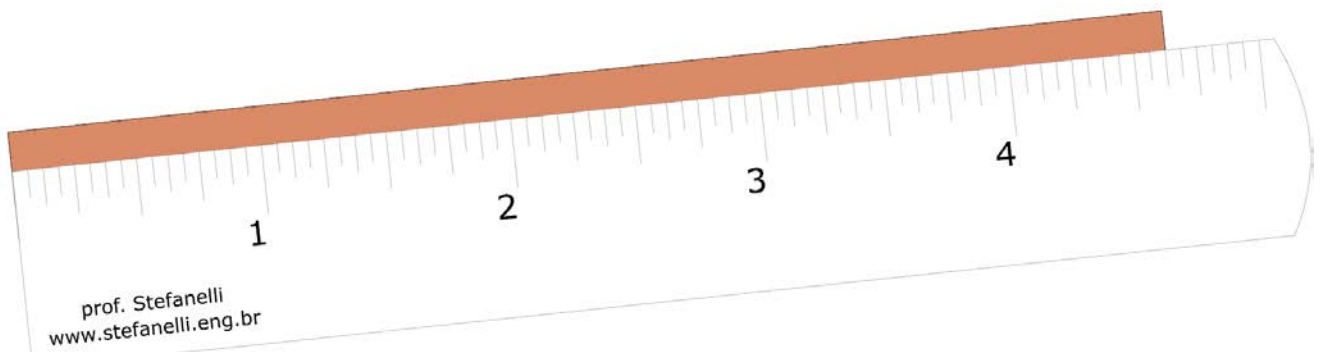
Homework 1 **ANSWERS**

Name: <b>AHMED M. EL-SHERBEENY, PHD</b>	Student Number: 4	Section: 11:00 / 1:00
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Read the following gages and write the values in the provided box.

[14 Questions; 0.75 Point Each].

1.



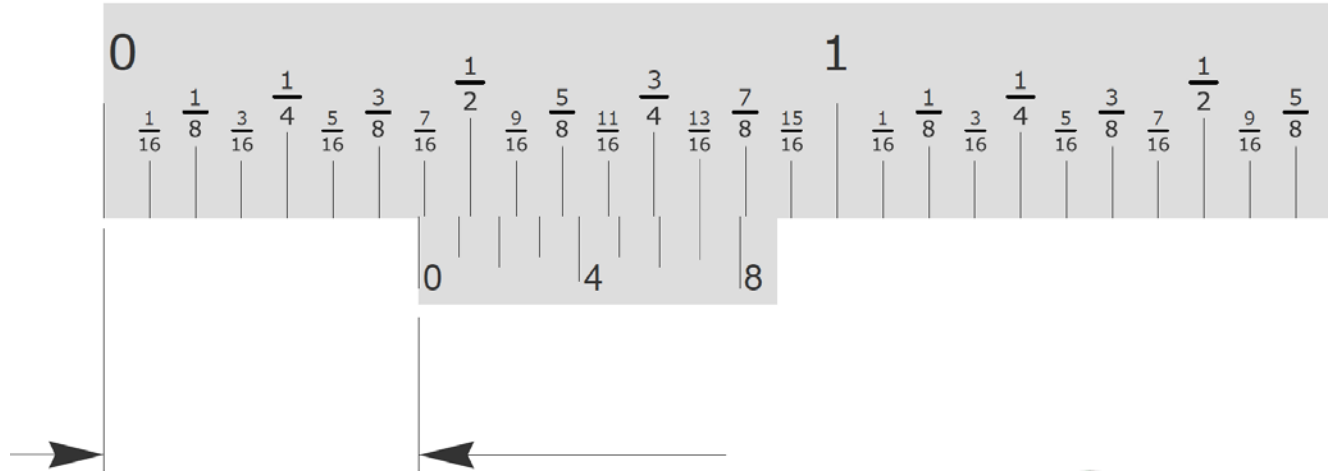
$$\begin{aligned} &= 4 * 1 \text{ in} \\ &+ 10 * \frac{1}{16} \text{ in} \\ &= 4.\frac{5}{8} \text{ in} \end{aligned}$$

Q1. ANSWER:

**4.<sup>5</sup>/<sub>8</sub> in**

2.

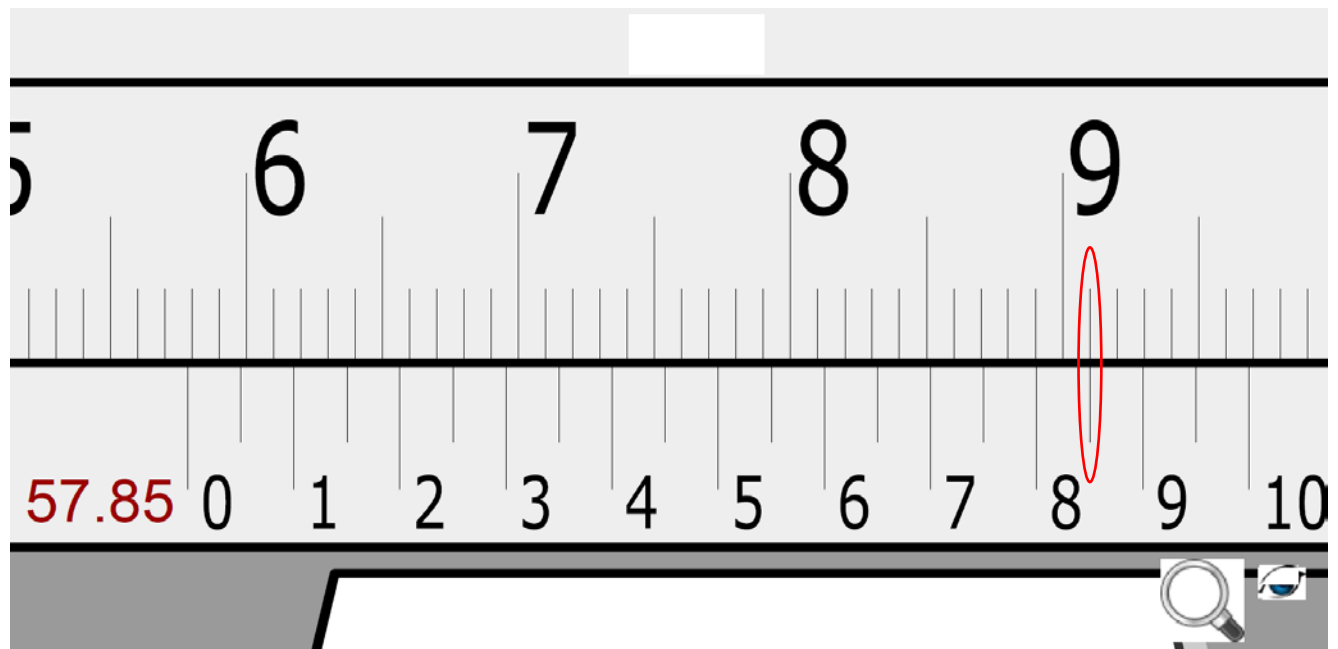
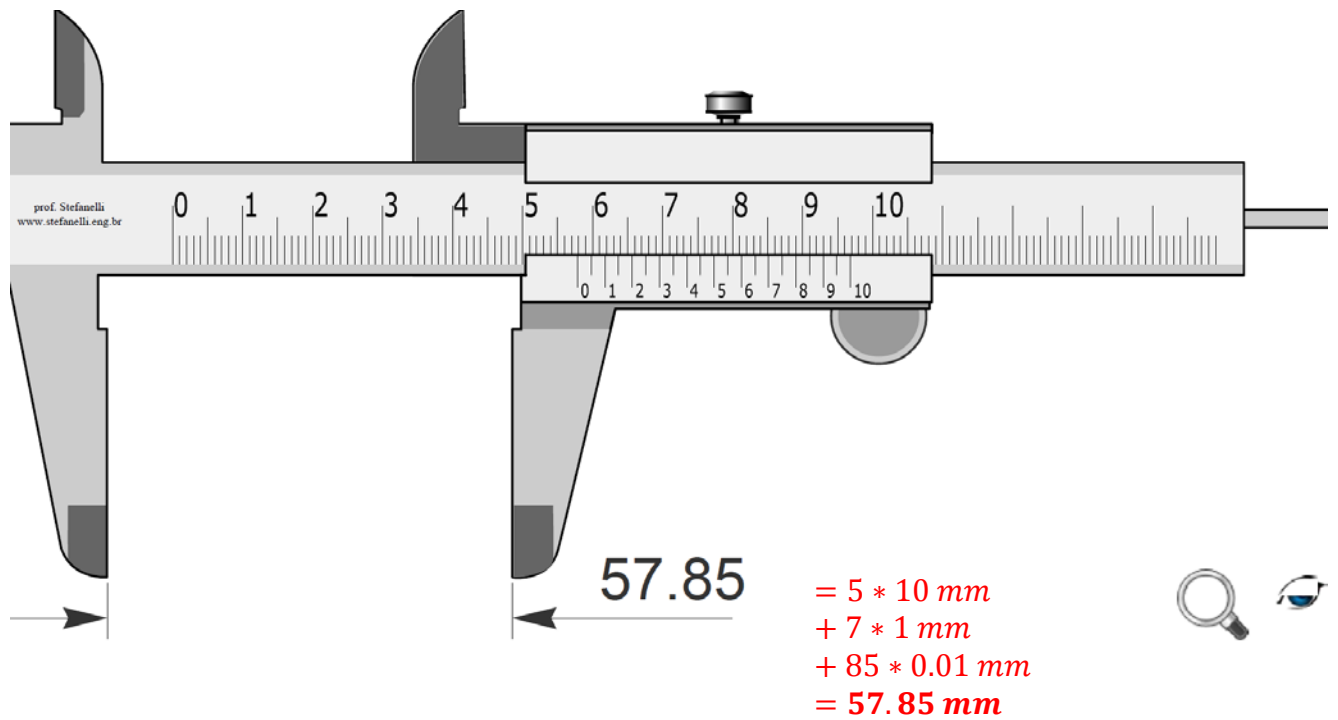
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$$\begin{aligned}
 & 0 * 1 \text{ in} \\
 & + \frac{3}{8} \text{ in} \\
 & + 7 * \left(\frac{1}{8}\right) \left(\frac{1}{16}\right) \text{ in} \\
 & \frac{48}{128} + \frac{7}{128} \\
 & = 0. \frac{55}{128} \text{ in}
 \end{aligned}$$

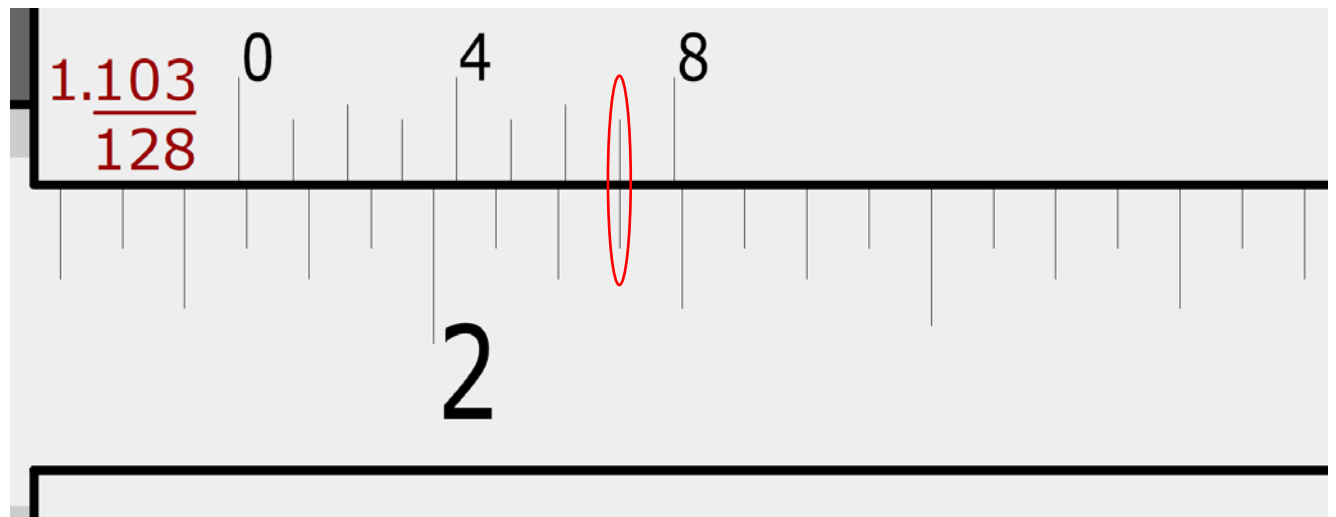
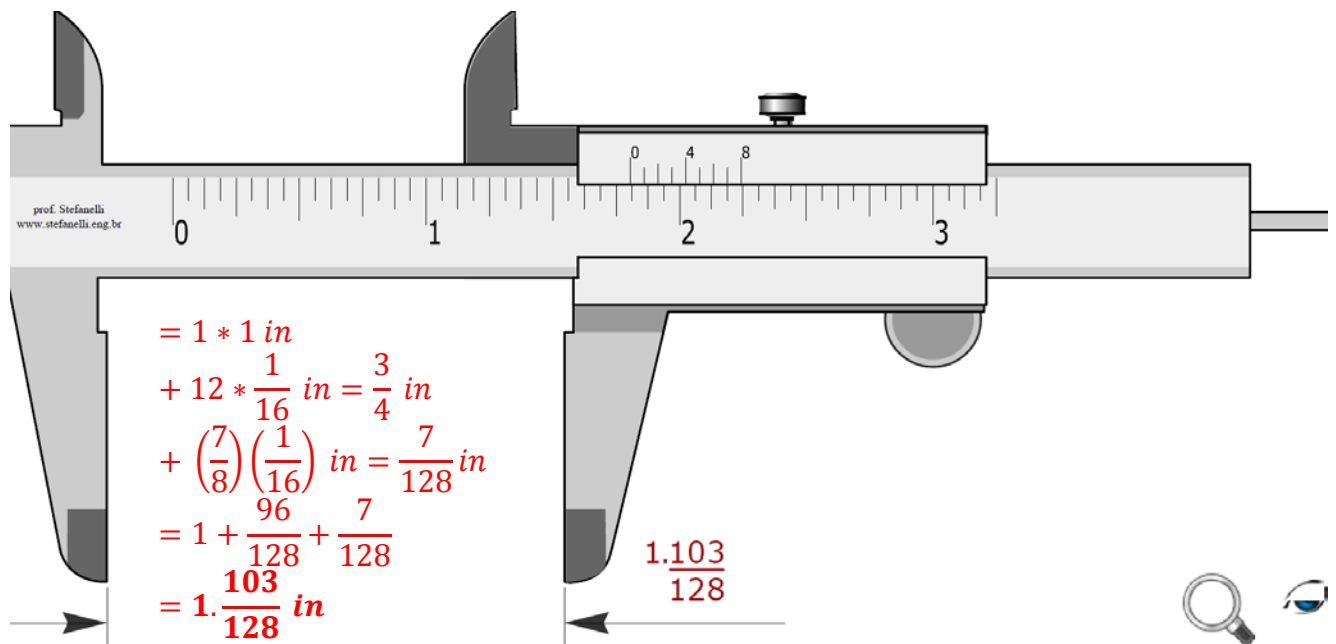
Q2. ANSWER:  $0. \frac{55}{128} \text{ in}$

3.



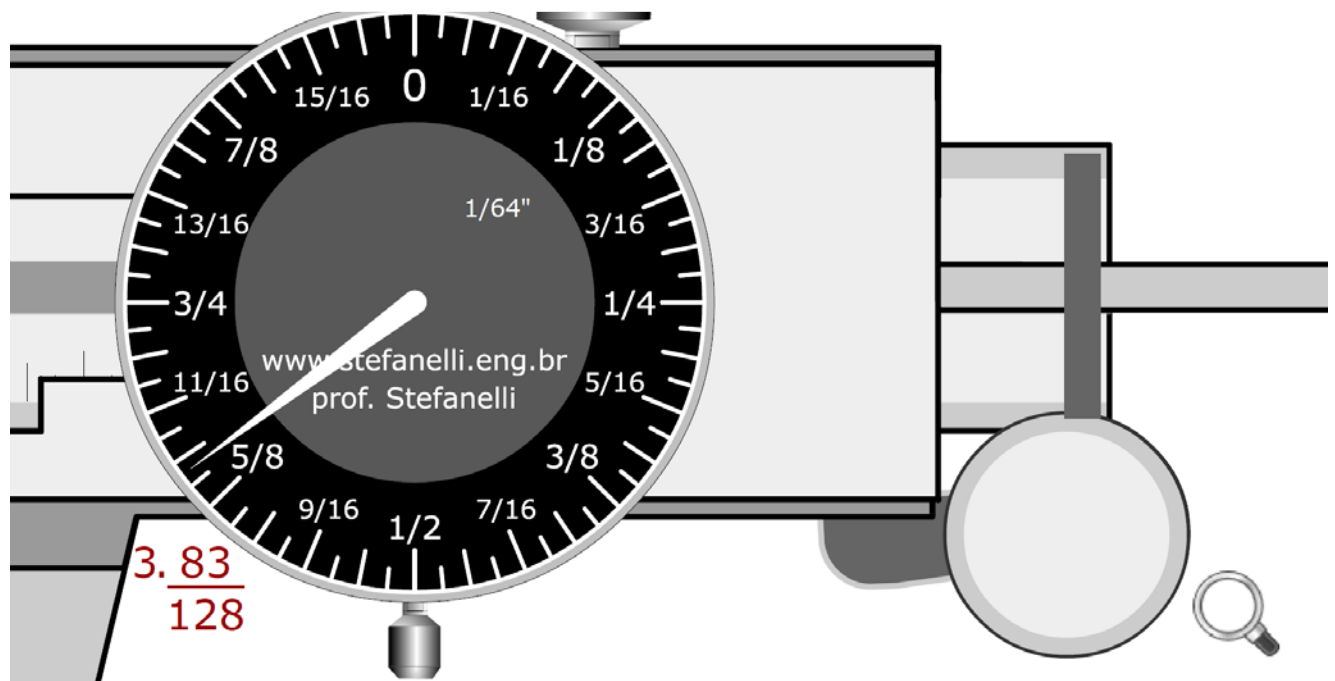
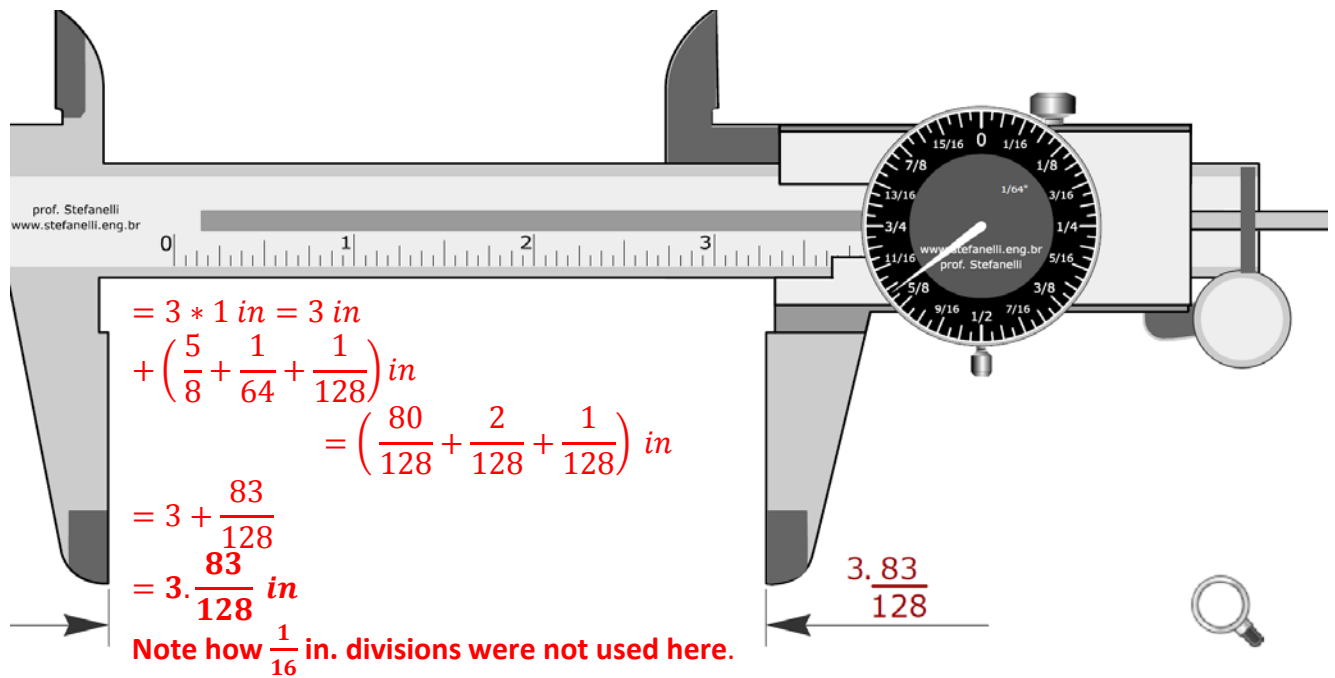
Q3. ANSWER: 57.85 mm

4.



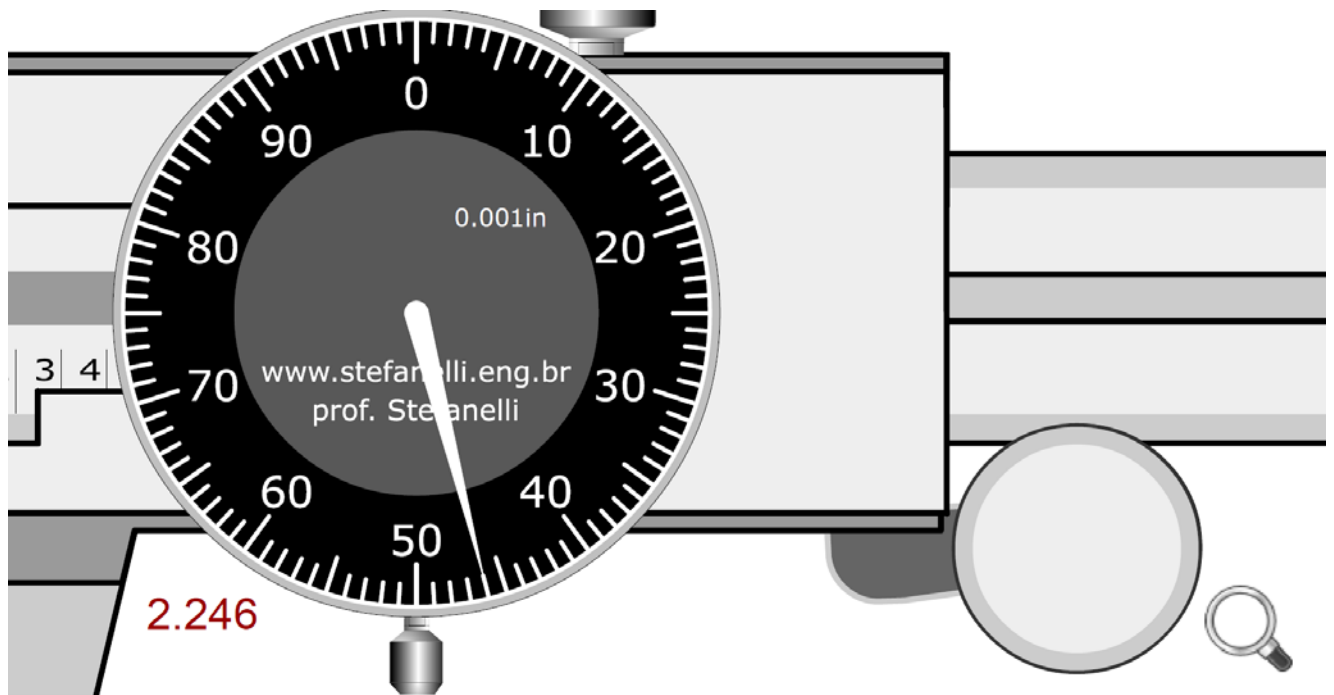
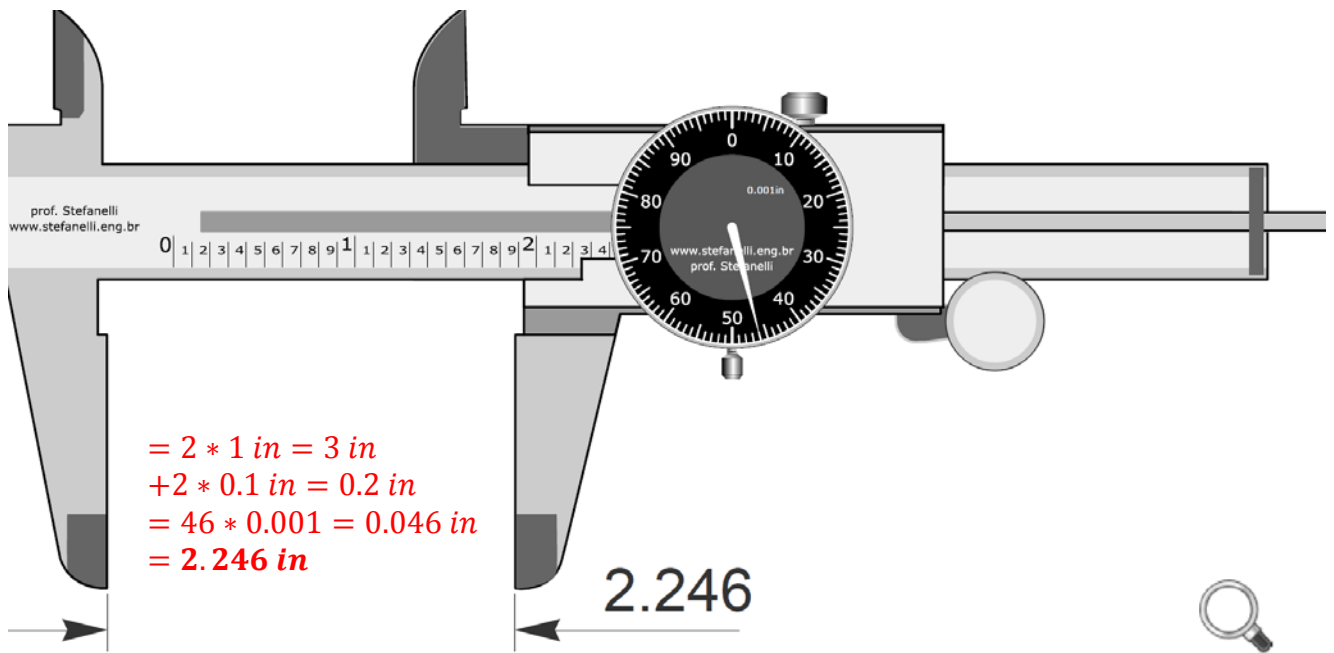
Q4. ANSWER:  $1. \frac{103}{128} \text{ in}$

5.



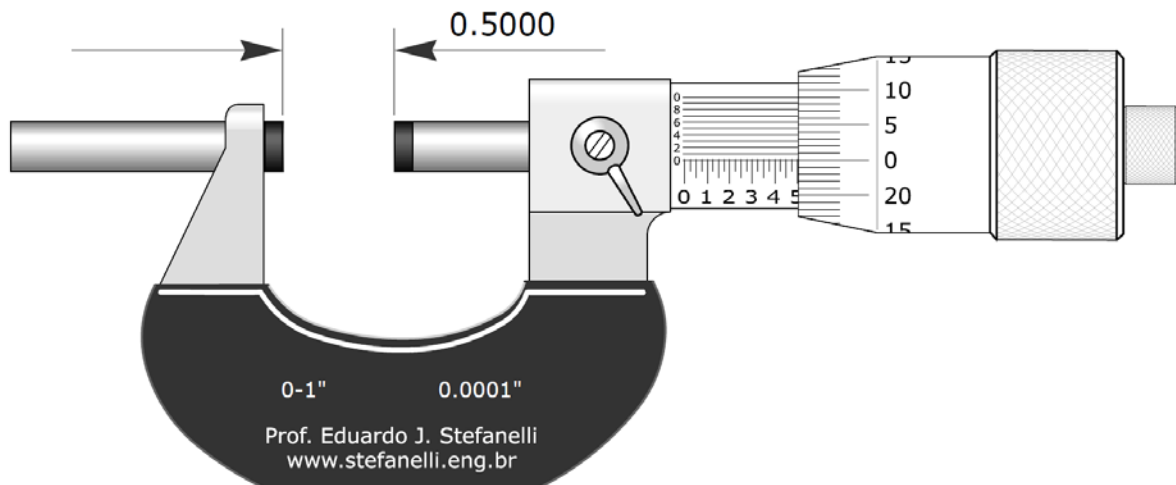
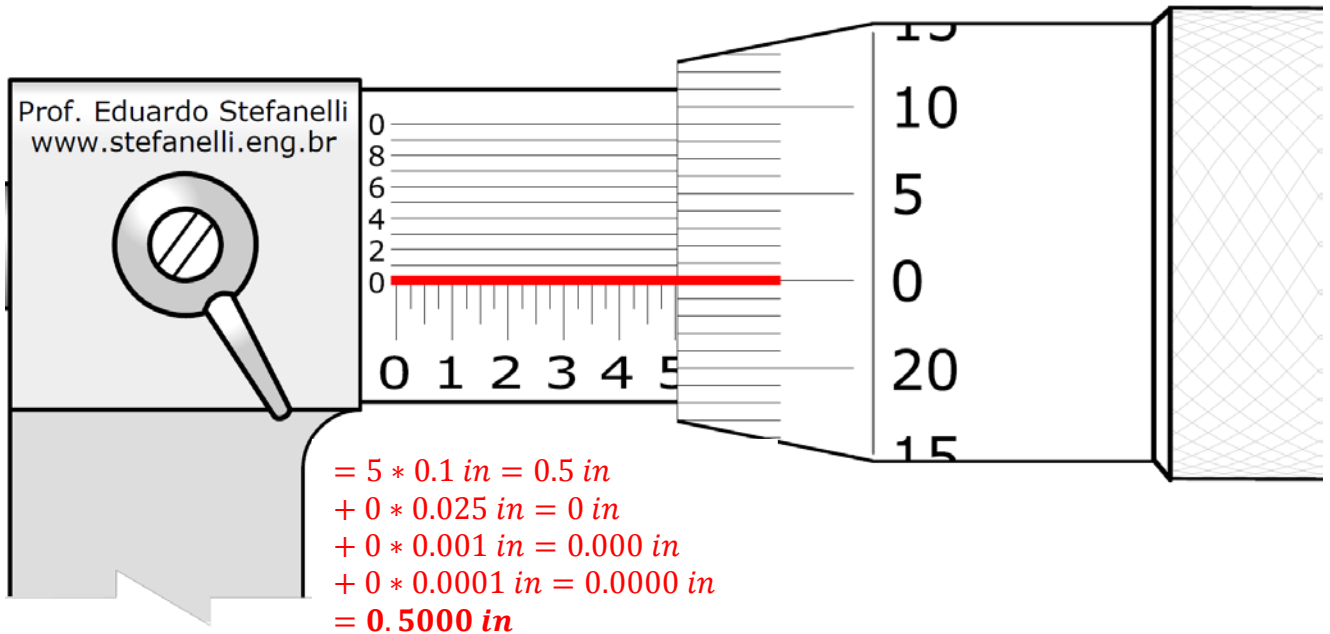
Q5. ANSWER:  $3. \frac{83}{128} \text{ in}$

6.



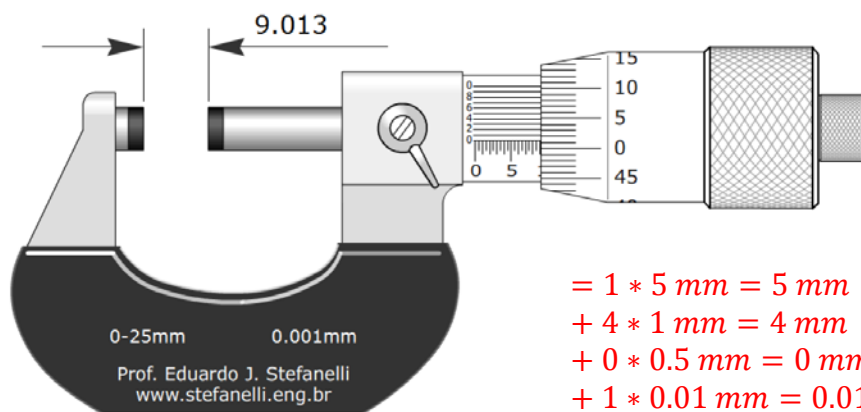
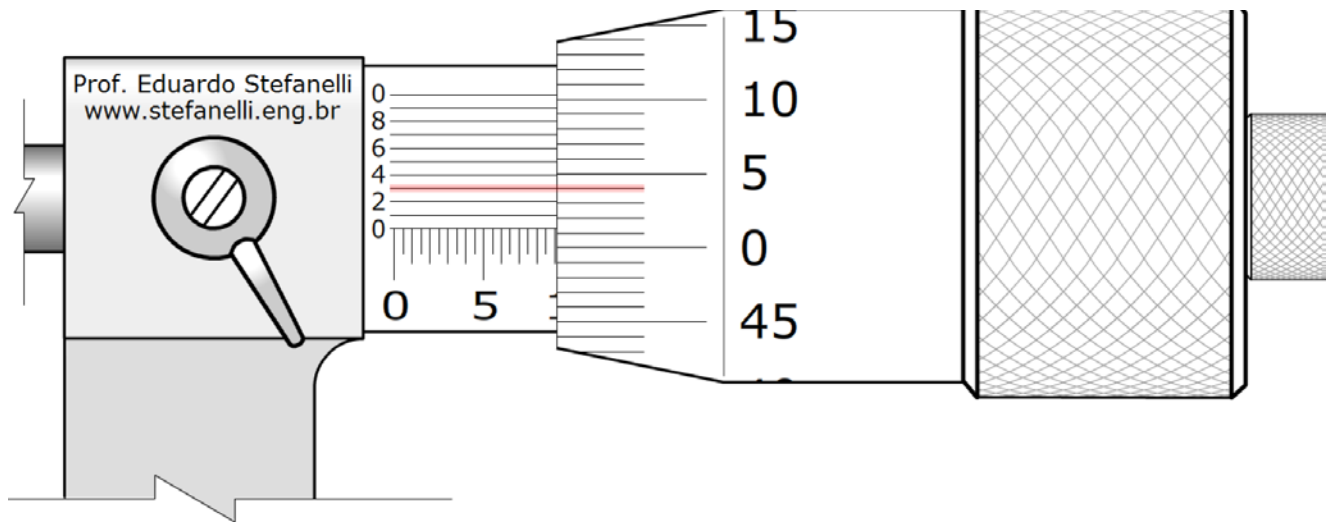
Q6. ANSWER: **2.246 in**

7.



Q7. ANSWER: **0.5000 in**

8.

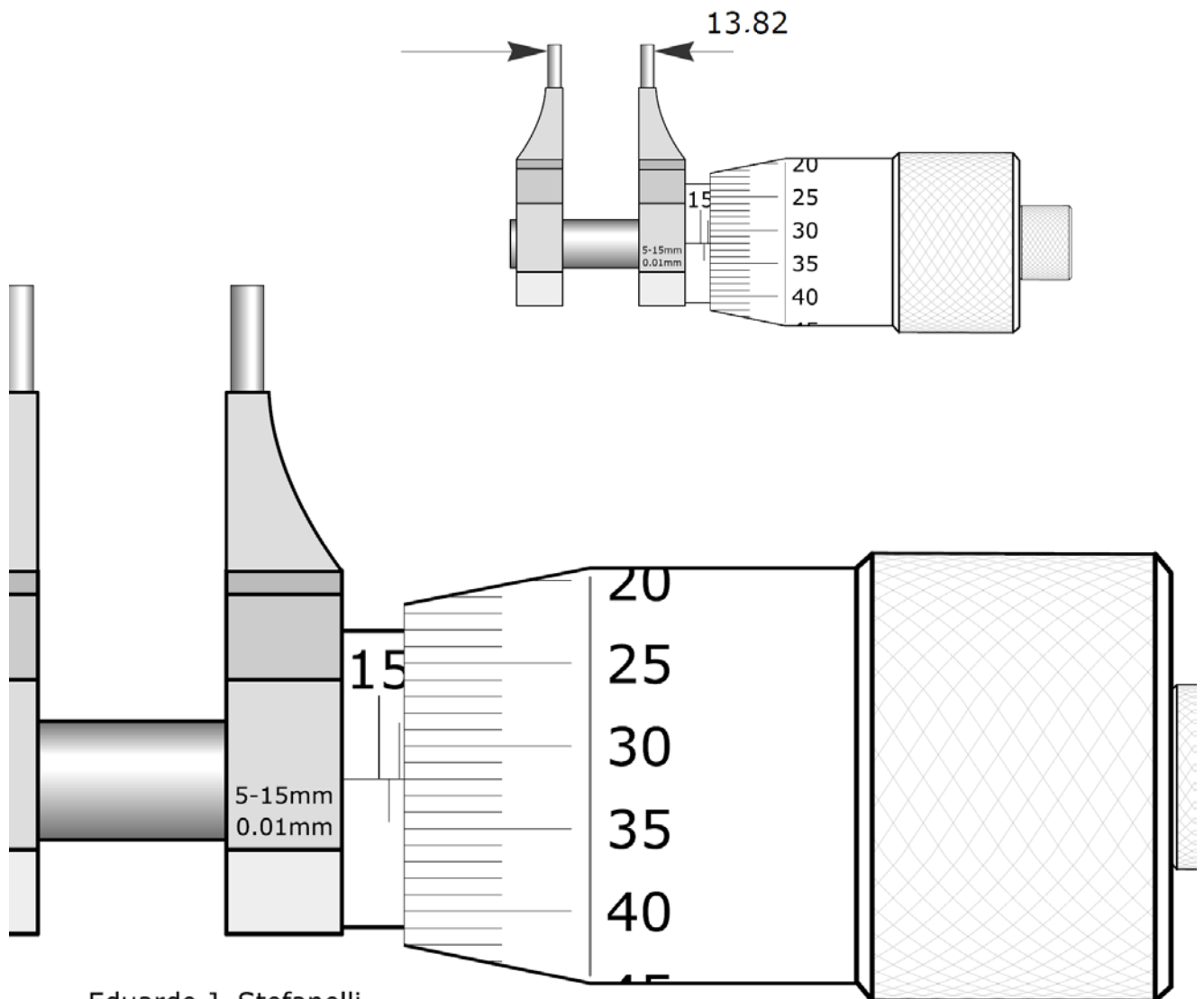


$$\begin{aligned}
 &= 1 * 5 \text{ mm} = 5 \text{ mm} \\
 &+ 4 * 1 \text{ mm} = 4 \text{ mm} \\
 &+ 0 * 0.5 \text{ mm} = 0 \text{ mm} \\
 &+ 1 * 0.01 \text{ mm} = 0.01 \text{ mm} \\
 &+ 3 * 0.001 \text{ mm} = 0.003 \text{ mm} \\
 &= \mathbf{9.013 \text{ mm}}
 \end{aligned}$$

Q8. ANSWER: **9.013 mm**



9.



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$$\begin{aligned}
 &= 13 * 1 \text{ mm} = 13 \text{ mm} \\
 &+ 1 * 0.5 \text{ mm} = 0.5 \text{ mm} \\
 &+ 32 * 0.01 \text{ mm} = 0.32 \text{ mm} \\
 &= 13.82 \text{ mm}
 \end{aligned}$$

(note how this gage is read from *right to left* and from *top to bottom* as opposed to the outside micrometer)

Q9. ANSWER: 13.82 mm

10.



$$\begin{aligned} &= 1 * 0.1 \text{ in} = 0.1 \\ &+ 10 * 0.001 \text{ in} = 0.010 \\ &= \mathbf{0.110 \text{ in}} \end{aligned}$$

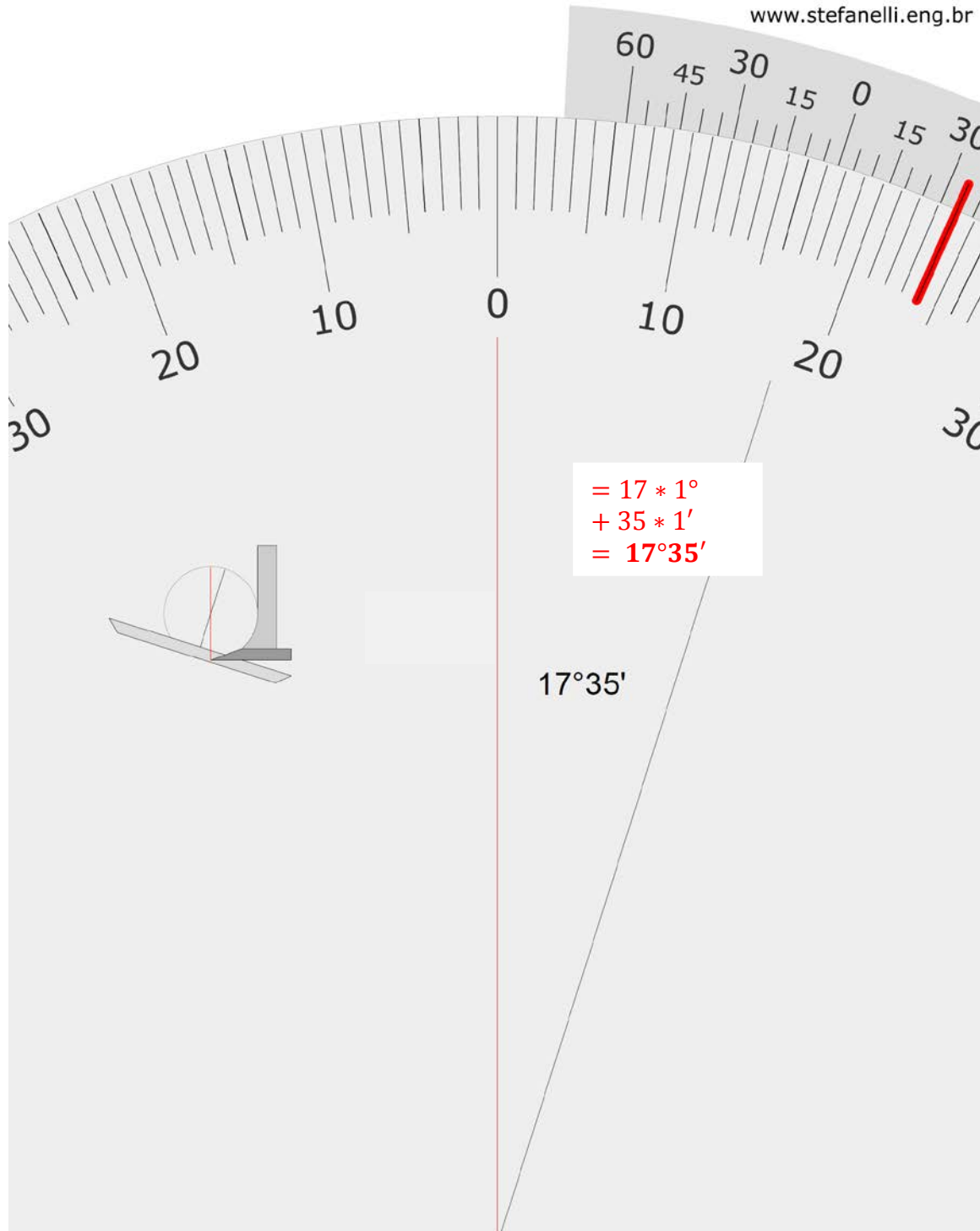
0.110 in



Q10. ANSWER: **0.110 in**

11.

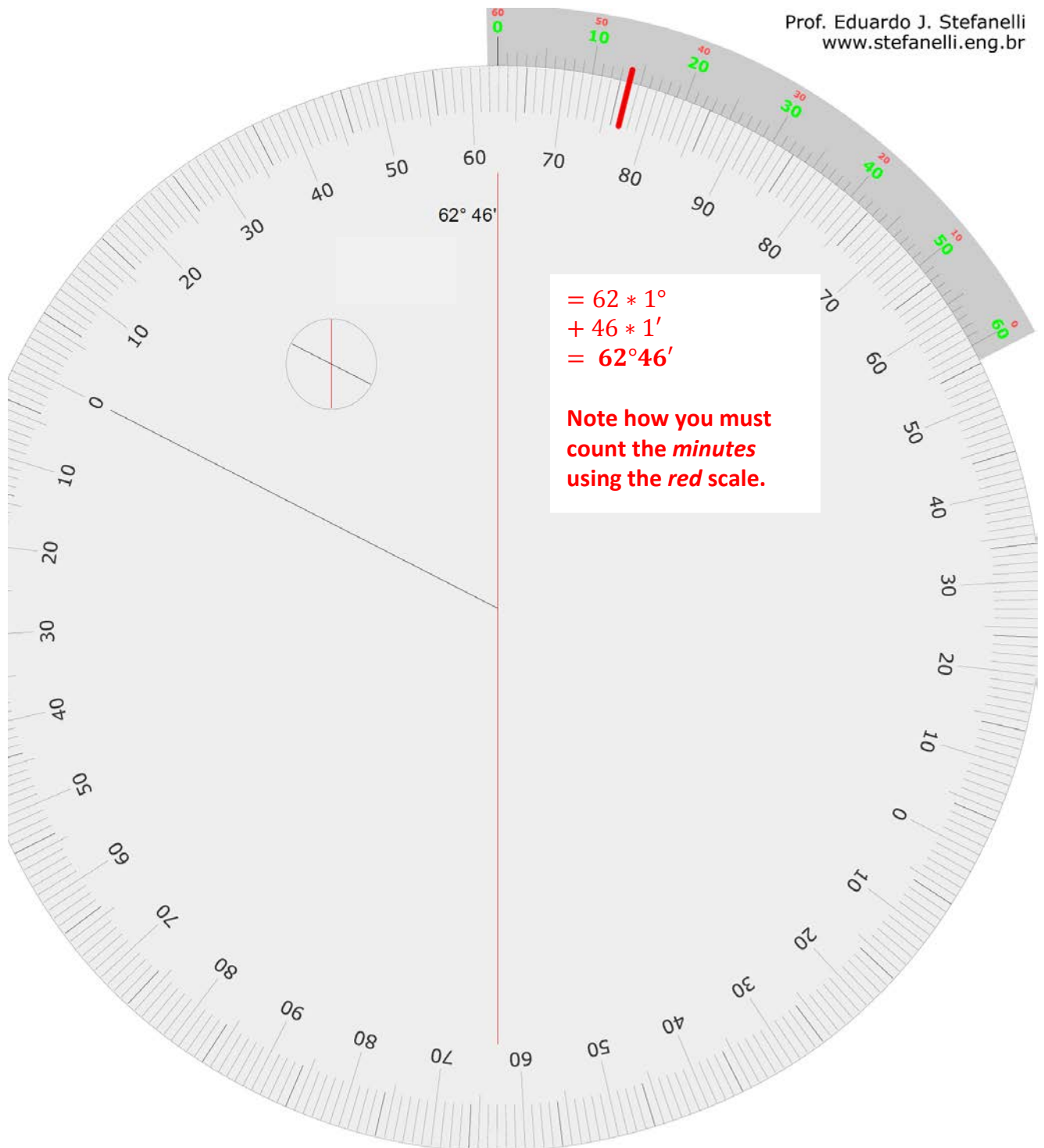
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Q11. ANSWER: 17°35'

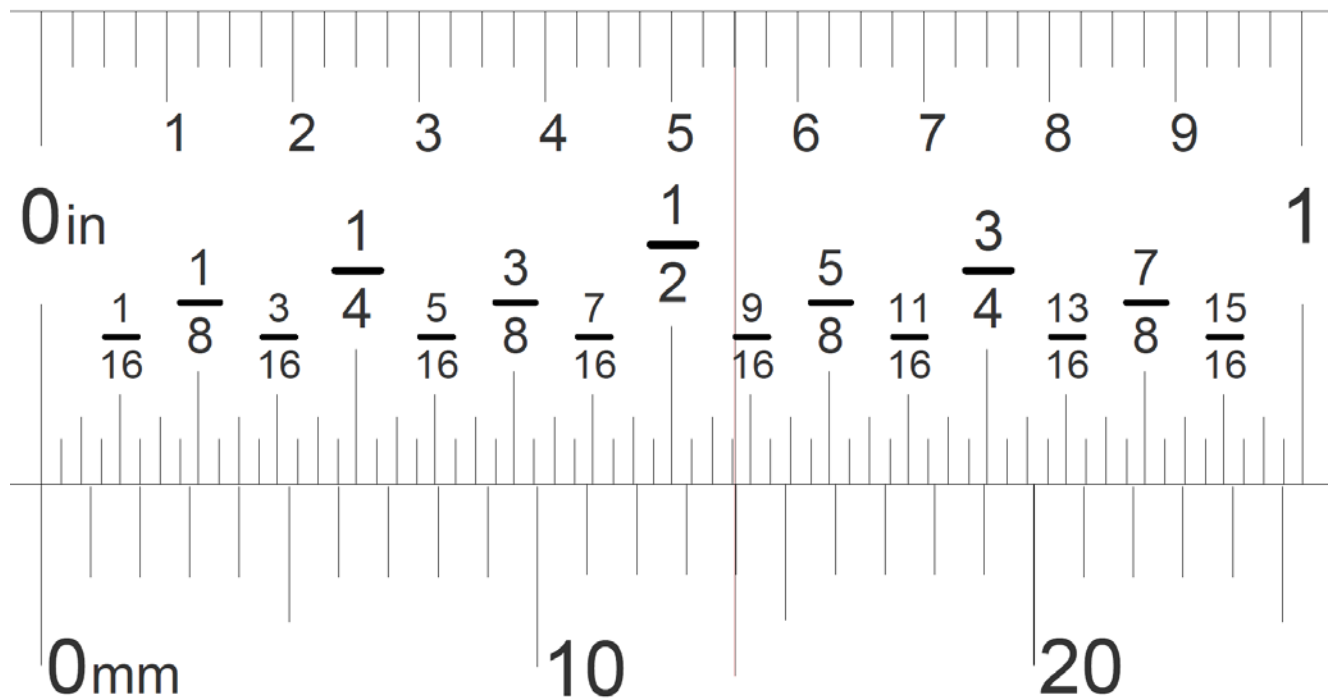
12.

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Q12. ANSWER: **62° 46'**

13. What is the reading indicated by the red line below in *in.* (fractional and decimal forms)?



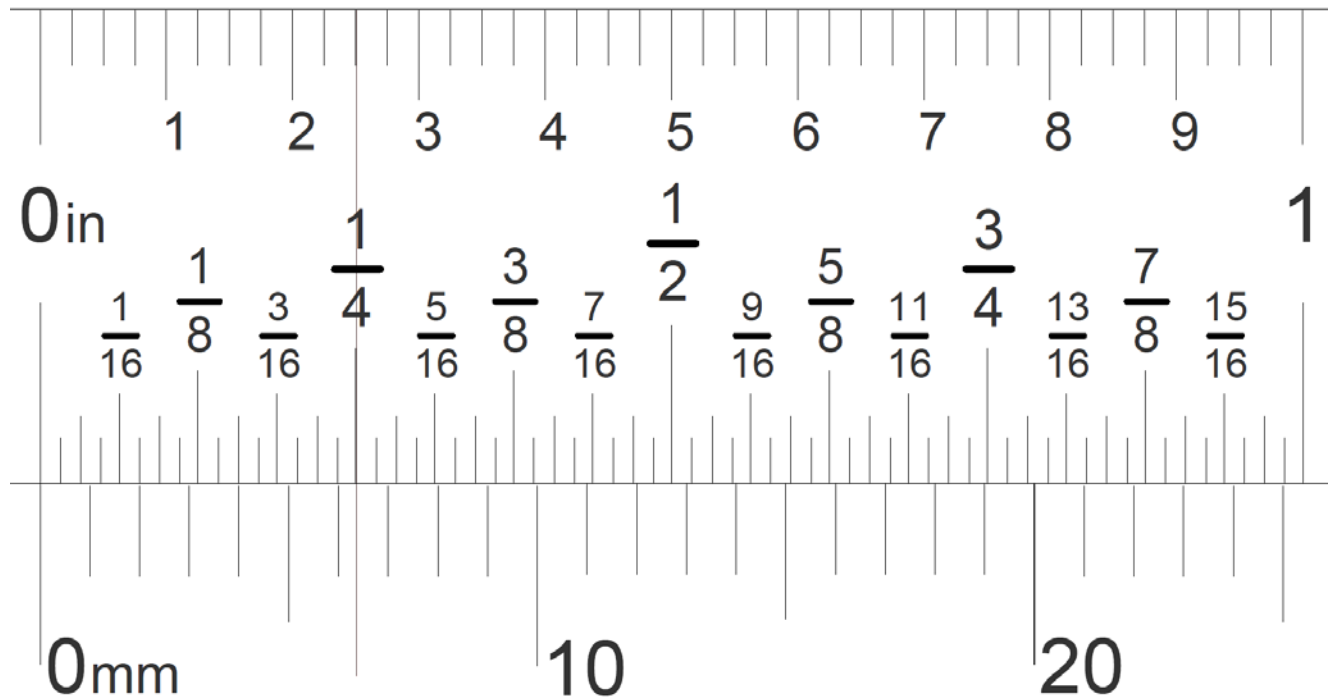
$$\frac{14.0 \text{ mm}}{25.4 \text{ mm}} \cong 0.550 \text{ in} \quad \times \frac{128}{128} \cong 0. \frac{35}{64} \text{ in}$$

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Q13. ANSWER:

$$14.0 \text{ mm} \approx 0.55 \text{ in} \approx 0. \frac{35}{64} \text{ in}$$

14. What is the reading indicated by the red line below in *mm*?



$$\frac{6.4 \text{ mm}}{25.4 \text{ mm}} \cong 0.250 \text{ in} \times \frac{128}{128} = 0. \underline{1} \text{ in}$$

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Q14. ANSWER:

$$0.25 \text{ in} = 0. \underline{1} \text{ in} = 6.4 \text{ mm}$$



## Rules:

- You must prepare and submit the homework **individually**.
- Your work must be **neatly written** in pencil (or typed) and in **proper English** (where applicable).
- **Show all work**, and answer each question on a **separate sheet**.
- **BOX** your answer(s) and include the **units**.
- Due date (beginning of class; NO late homework will be accepted):
  - **Tuesday, March 04, 2014 (S2)**, 2014 (03/05/1435)
  - **Wednesday, March 05, 2014 (S1,S3)**, 2014 (04/05/1435)