

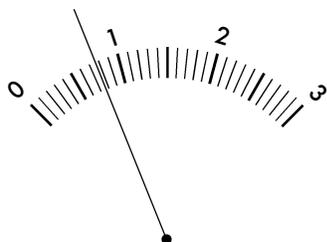
# PhyzJob: Voltmeters & Ammeters

## Analog Measurement Techniques 2

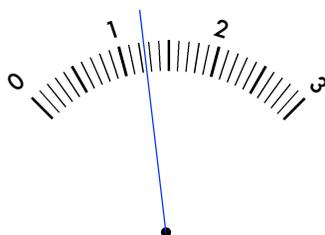


While we may be living in the The Digital Age, we must sometimes use analog measuring devices. To use these devices correctly, you must be able to apply a few simple but important techniques. In the left column, an example of correct technique is shown. In the center column, you must apply the technique to draw the pointer location for the reading indicated. In the right column, you must apply the technique to determine the correct measurement for the pointer position shown.

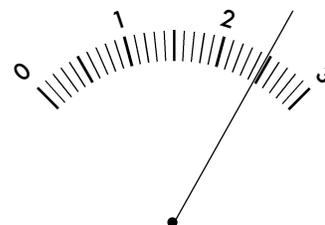
### 1. Voltmeter: 0-3 V DC



a.  $V = 0.78 \text{ V}$   
 (Could be  $0.77 \text{ V}$  or  $0.79 \text{ V}$ , but not  $0.7 \text{ V}$ ,  $0.8 \text{ V}$ , or even  $0.780 \text{ V}$ .)

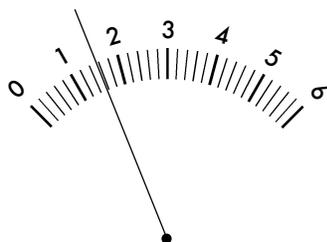


b.  $V = 1.27 \text{ V}$

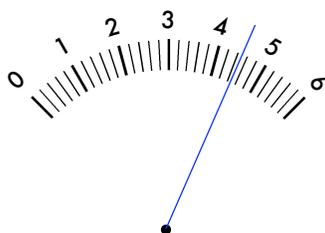


c.  $V = 2.48 \text{ V}$

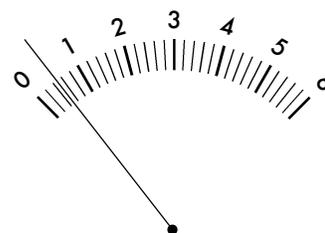
### 2. Ammeter: 0-6 A DC



a.  $I = 1.54 \text{ A}$   
 (Could be  $1.50 \text{ A}$ ,  $1.52 \text{ A}$ , or  $1.56 \text{ A}$ , but not  $1.53 \text{ A}$ ,  $1.55 \text{ A}$ ,  $1.4 \text{ A}$ ,  $1.6 \text{ A}$  or even  $1.5 \text{ A}$ .)

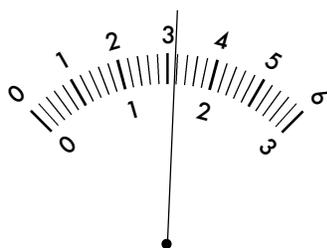


b.  $I = 4.56 \text{ A}$

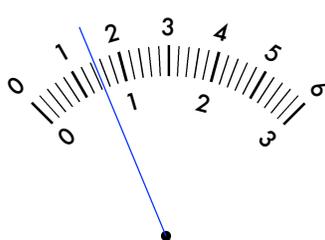


c.  $I = 0.48 \text{ V}$

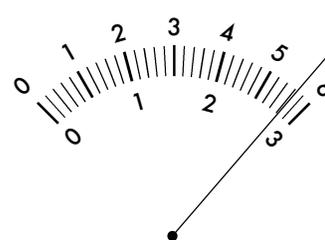
### 3. Multi-range voltmeter: 0-3 V DC, 0-6 V DC (the 6 V range is connected)



a.  $V = 3.18 \text{ V}$   
 (Could be  $3.16 \text{ V}$  or  $3.20 \text{ V}$ , but not  $3.0 \text{ V}$ ,  $3.1 \text{ V}$ , or  $3.2 \text{ V}$ . And certainly not less than  $2 \text{ V}$ .)

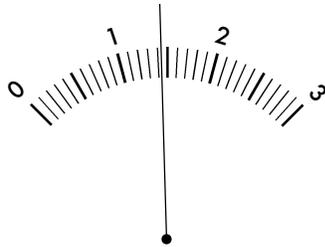


b.  $V = 1.48 \text{ V}$

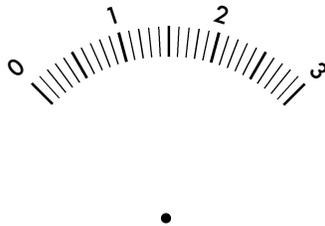


c.  $V = 5.62 \text{ V}$

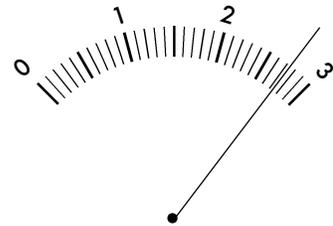
4. Ammeter: 0-3 A DC. *YOU choose the value for the middle column!*



a.  $I = 1.42 \text{ A}$

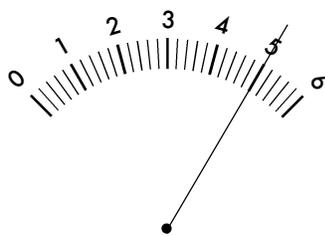


b. \_\_\_\_\_

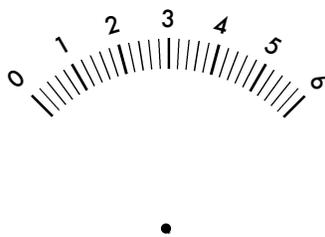


c.  $I = 2.72 \text{ A}$

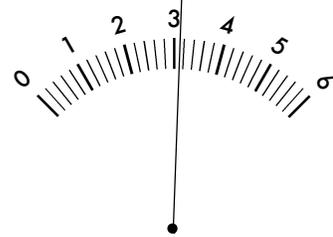
5. Voltmeter: 0-6 V DC. *YOU choose the value for the middle column!*



a.  $V = 5.00 \text{ V}$

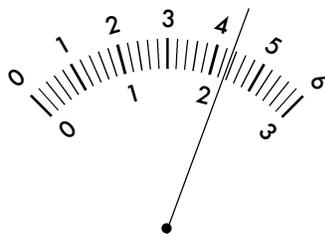


b. \_\_\_\_\_



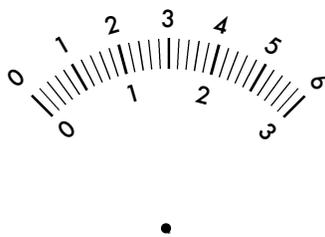
c.  $V = 3.16 \text{ V}$

6. Multi-range ammeter: 0-3 A DC, 0-6 A DC. *YOU choose the range connection AND value for the middle column!*

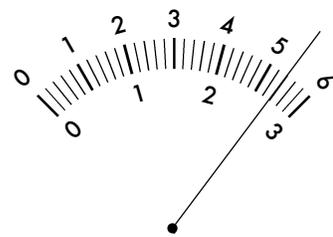


(the 3 A range is connected)

a.  $I = 2.17 \text{ A}$



b. \_\_\_\_\_



(the 6 A range is connected)

c.  $I = 5.40 \text{ A}$