

Activity 1G: Measuring Angles

You will need the following equipment for these lab activities:

- [Protractor](#); [tutorial on how to use a protractor](#).
- [360 Protractor](#) (Note: both protractors can be printed. Print on transparency for best results.)

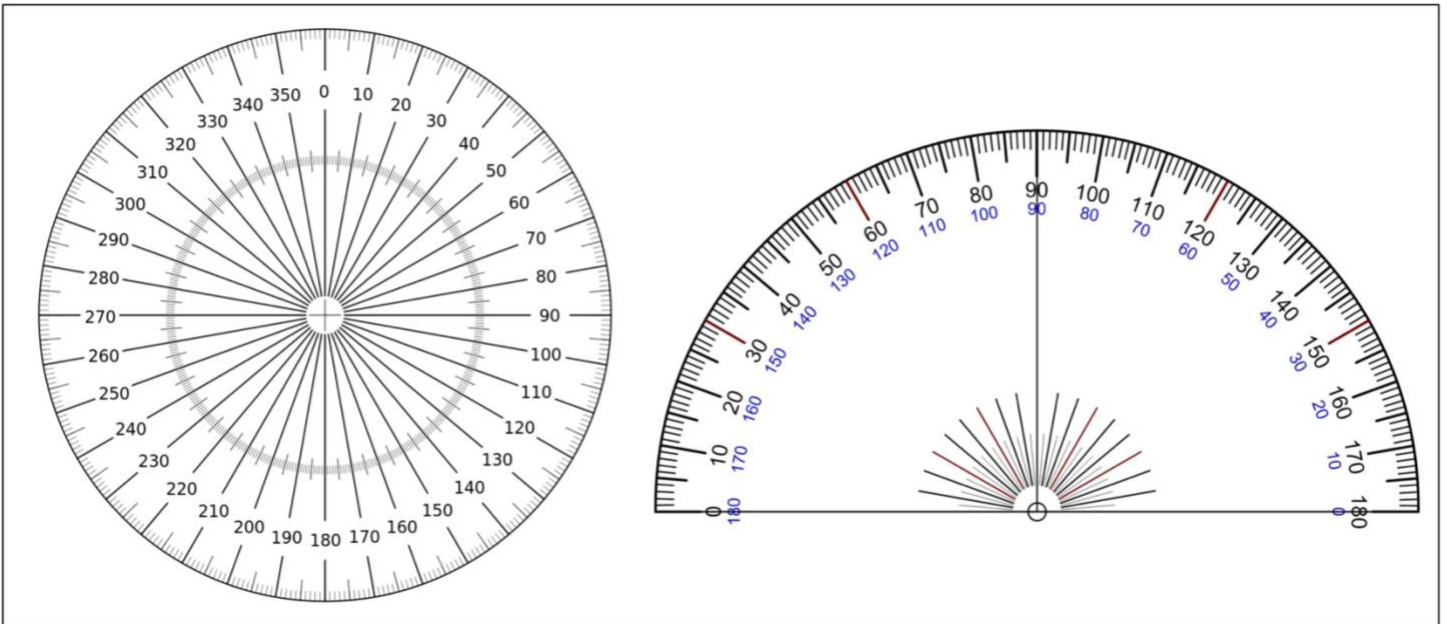


Figure 1.12: Protractor examples. A 360-degree protractor example is on the left, and a classic 180-degree protractor on the right. Both are commonly used for scientific purposes.

1. Using your protractor, measure the angle of the arrow below.

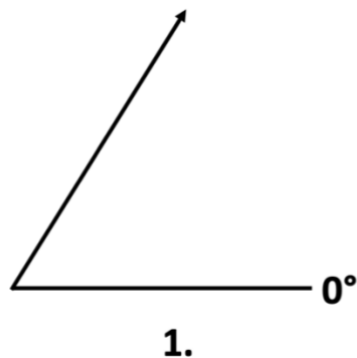


Figure 1.13.1: An acute angle for measurement.

Name: _____

Activity 1G

2. Using your protractor, measure the angle of the arrow below.

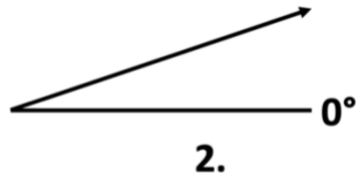


Figure 1.13.2: An acute angle for measurement.

3. Using your protractor, measure the angle of the arrow below.

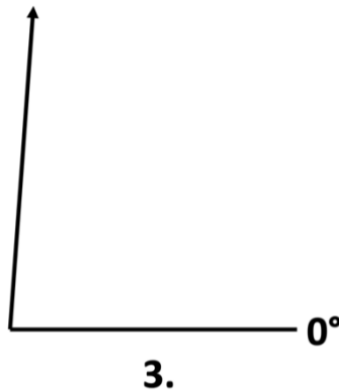


Figure 1.13.3: An acute angle for measurement.

4. Using your protractor, measure the angle of the arrow below.

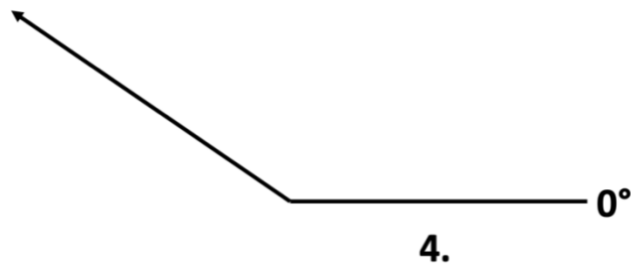


Figure 1.13.4: An obtuse angle for measurement.

5. Below is a [compass rose](#), which indicates the cardinal directions. North (N) is always represented as $0^\circ/360^\circ$. On the compass below, label:
- The remaining cardinal directions (S, W, E) in **black**.
 - The intermediate points (NE, SE, NW, SW) in **brown**.
 - The intermediate points of the intermediate points (NNE, ENE, ESE, SSE, SSW, WSW, NNW, WNW) in **blue**.

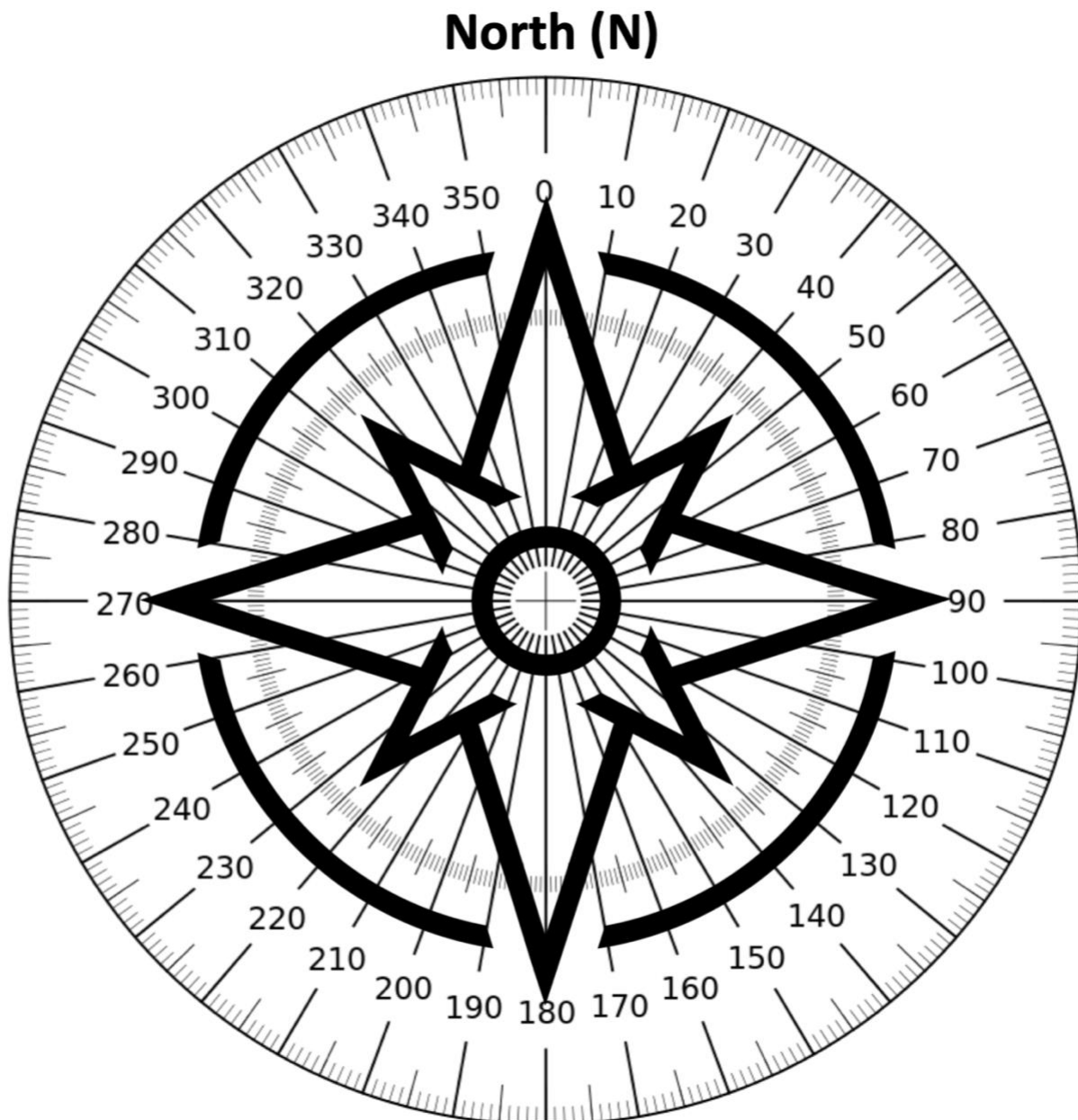


Figure 1.14: 360-degree protractor overlain with a standard compass rose; north is to the top of the page.

Name: _____

Activity 1G

Attributions

- Figure 1.12: Derivative of Left: “Protractor Rapporteur Degree V1” (CC-BY-SA 3.0; Autiwa via [Wikimedia Commons](#)) and Right: “Rapporteur” (Public Domain; Scientif38 via [Wikimedia Commons](#)) by Chloe Branciforte
- Figure 1.13: “Angles for measurement” (CC-BY 4.0; Chloe Branciforte, own work)
- Figure 1.14: Derivative of “Protractor Rapporteur Degree V1” (CC-BY-SA 3.0; Autiwa via [Wikimedia Commons](#)) by Chloe Branciforte