

Using measurement tools

Read lengths from a ruler and angles from a protractor.



Name _____

Date _____

How to read each tool

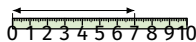
For a ruler, subtract the start reading from the end reading – do not assume the object starts at zero. For a protractor, use the scale that matches the zero line stated in the question: the outer scale counts from the right, the inner scale counts from the left.

Worked example An object is measured against a ruler. Find its length.

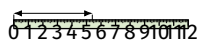
The span runs from 2 cm to 9 cm.
Length = $9 - 2 = 7$ cm



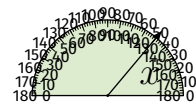
1. Read the length shown, in centimetres.



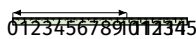
2. Read the length shown, in millimetres.



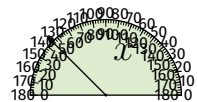
3. Read the marked angle from the outer scale.



4. Read the length shown, in millimetres.



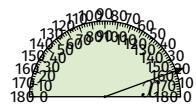
5. Read the marked angle from the outer scale.



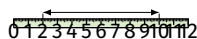
6. The object does not start at zero. Find its length in centimetres.



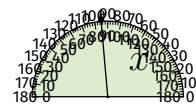
7. Read the marked angle from the outer scale.



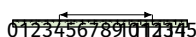
8. The object does not start at zero. Find its length in centimetres.



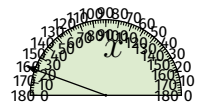
9. Read the marked angle from the outer scale.



10. The object does not start at zero. Find its length in centimetres.



11. Read the marked angle from the outer scale.



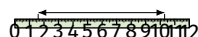
12. Read the length shown, in millimetres.



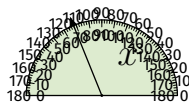
Name _____

Date _____

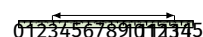
13. Read to the nearest millimetre. Give the length in millimetres.



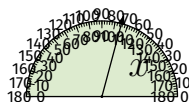
14. Measure from the left-hand zero line (inner scale).



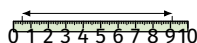
15. Read to the nearest millimetre. Give the length in millimetres.



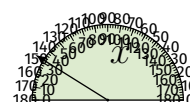
16. Read the marked angle from the outer scale.



17. Read to the nearest millimetre. Give the length in millimetres.



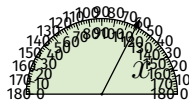
18. Measure from the left-hand zero line (inner scale).



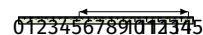
19. Read to the nearest millimetre. Give the length in millimetres.



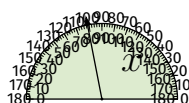
20. Read the marked angle from the outer scale.



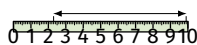
21. Give the length to the nearest whole centimetre.



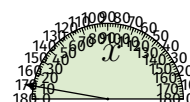
22. Read from the outer scale. Is this angle acute or obtuse?



23. Read to the nearest millimetre. Give the length in millimetres.



24. Read from the outer scale. How many degrees short of a straight angle (180°) is it?



25. A ray on a protractor is read as 55° on the outer scale. State its reading on the inner scale, and explain why the two scales always add to 180° .

26. One student reads a ruler straight off the end position and gets 9 cm. A second student subtracts the object's start position and gets 6.5 cm. Explain the first student's mistake.

27. Explain why a protractor has two number scales instead of just one.

