



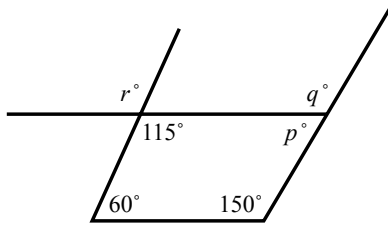
# Angle Properties 3



## G). Angle Sum of a Quadrilateral

The interior angles of a quadrilateral add up to  $360^\circ$

E.g. From the diagram find  $p$ ,  $q$  and  $r$ .



$$\begin{aligned}
 p^\circ + 150^\circ + 60^\circ + 115^\circ &= 360^\circ \text{ (Angle Sum of a Quadrilateral)} \\
 p^\circ + 325^\circ &= 360^\circ \\
 p^\circ &= 35^\circ \\
 35^\circ + q^\circ &= 180^\circ \text{ (Angles on straight line)} \\
 q^\circ &= 145^\circ \\
 r^\circ &= 115^\circ \text{ (Vertically opposite angles).}
 \end{aligned}$$

Find the size of the angles marked by letters in each diagram.  
Give a reason for each angle found. (**Diagrams not to scale**).

- 1).
- 2).
- 3).
- 4).
- 5).
- 6).
- 7).
- 8).
- 9).
- 10).
- 11).
- 12).
- 13).
- 14).
- 15).
- 16).
- 17).
- 18).
- 19).
- 20).

## H). Constructions

**The Perpendicular Bisector.** This construction will bisect (cut in half) a line.  
The construction is perpendicular (at right angles) to the line.

- 1).
- Put a compass on one end of the line. Draw an arc above and below the line.

- 2).
- Keep the compass open at the same distance. Now place it at the other end of the line and repeat step 1.

- 3).
- Where these arcs cross, join them up. This is the perpendicular bisector.