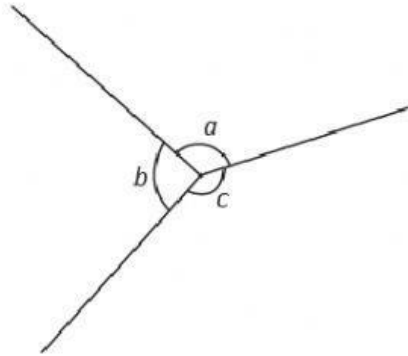


## Practice 2 Angles at a Point

1. In each of the figures below, the lines meet at a point. Using a protractor, measure and find each unknown marked angle.

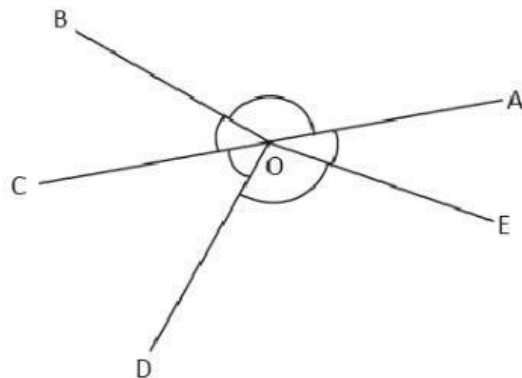
(a)



$$\begin{aligned}\angle a &= \boxed{\phantom{00}}^\circ \\ \angle b &= \boxed{\phantom{00}}^\circ \\ \angle c &= \boxed{\phantom{00}}^\circ\end{aligned}$$

$$\begin{aligned}\angle a + \angle b + \angle c &= \boxed{\phantom{00}}^\circ + \boxed{\phantom{00}}^\circ + \boxed{\phantom{00}}^\circ \\ &= \boxed{\phantom{00}}^\circ\end{aligned}$$

(b)

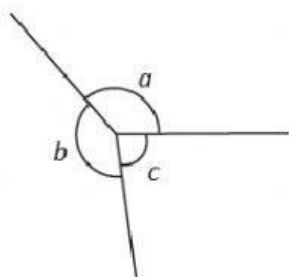


$$\begin{aligned}\angle AOB &= \boxed{\phantom{00}}^\circ \\ \angle BOC &= \boxed{\phantom{00}}^\circ \\ \angle COD &= \boxed{\phantom{00}}^\circ \\ \angle DOE &= \boxed{\phantom{00}}^\circ \\ \angle EOA &= \boxed{\phantom{00}}^\circ\end{aligned}$$

$$\begin{aligned}\angle AOB + \angle BOC + \angle COD + \angle DOE + \angle EOA &= \boxed{\phantom{00}}^\circ + \boxed{\phantom{00}}^\circ + \boxed{\phantom{00}}^\circ + \boxed{\phantom{00}}^\circ + \boxed{\phantom{00}}^\circ \\ &= \boxed{\phantom{00}}^\circ\end{aligned}$$

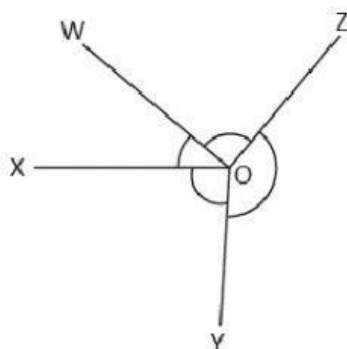
2. Name the angles at a point that have a sum of  $360^\circ$ .

(a)



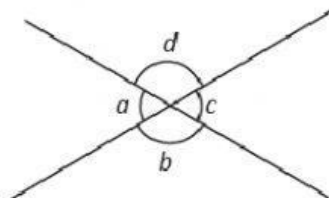
$$\angle \boxed{\phantom{a}} + \angle \boxed{\phantom{b}} + \angle \boxed{\phantom{c}} = 360^\circ$$

(b)



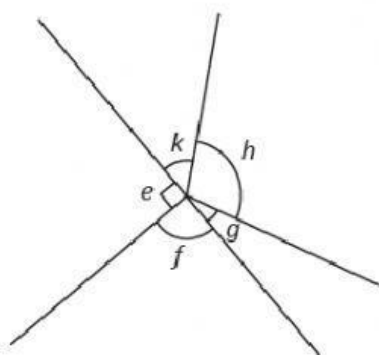
$$\angle \boxed{\phantom{a}} + \angle \boxed{\phantom{b}} + \angle \boxed{\phantom{c}} + \angle \boxed{\phantom{d}} = 360^\circ$$

(c)



$$\underline{\angle a + \angle b + \angle c + \angle d} = 360^\circ$$

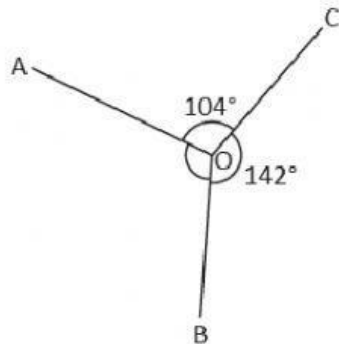
(d)



$$\angle \boxed{\phantom{a}} + \angle \boxed{\phantom{b}} + \angle \boxed{\phantom{c}} + \angle \boxed{\phantom{d}} + \angle \boxed{\phantom{e}} + \angle \boxed{\phantom{f}} = 360^\circ$$

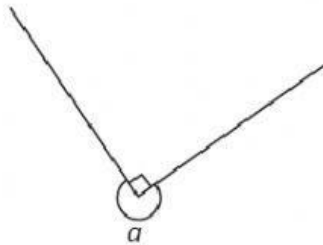
3. Find the unknown marked angles.

(a) Find  $\angle AOB$ .



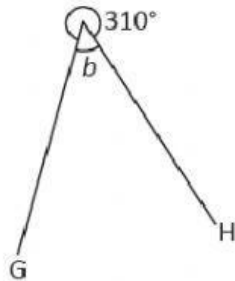
$$\begin{aligned}\angle AOB &= \underline{360}^{\circ} - \underline{104}^{\circ} - \underline{142}^{\circ} \\ &= \underline{114}^{\circ}\end{aligned}$$

(b) Find  $\angle a$ .



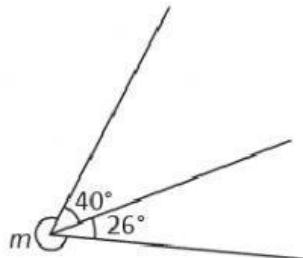
$$\angle a = \boxed{\phantom{00}}$$

(c) Find  $\angle b$ .



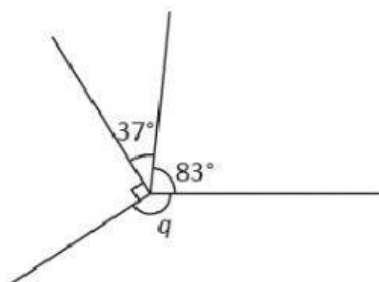
$$\angle b = \boxed{\phantom{00}}$$

(d) Find  $\angle m$ .



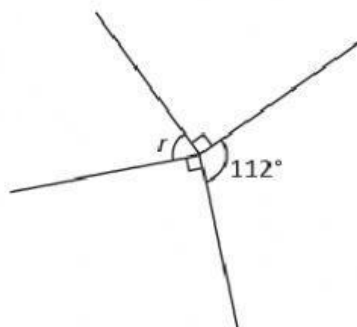
$$\angle m = \boxed{\phantom{00}}$$

(e) Find  $\angle q$ .



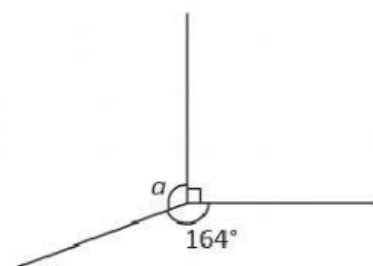
$$\angle q = \boxed{\phantom{00}}$$

(f) Find  $\angle r$ .



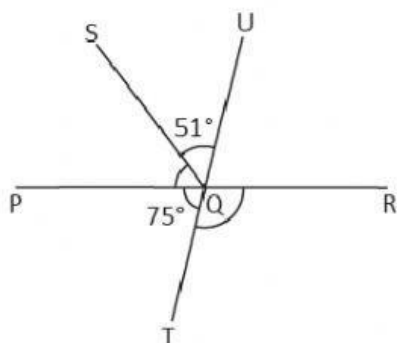
$$\angle r = \boxed{\phantom{00}}$$

(g) Find  $\angle a$ .



$$\angle a = \boxed{\phantom{00}}$$

4. PQR and TQU are straight lines.  
Find  $\angle PQS$  and  $\angle TQR$ .



$$\begin{aligned}\angle PQS &= 180^\circ - 75^\circ - 51^\circ \\ &= 54^\circ\end{aligned}$$

$$\begin{aligned}\angle TQR &= 180^\circ - 75^\circ \\ &= 105^\circ\end{aligned}$$