

Name: \_\_\_\_\_ ( ) Class: \_\_\_\_\_ Date: \_\_\_\_\_

## Lesson Worksheet 8.2B(I)

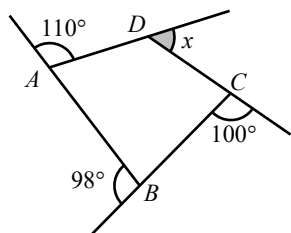
Objective: To solve questions involving the sum of exterior angles of polygons.

The sum of exterior angles of a convex polygon is  $360^\circ$ .

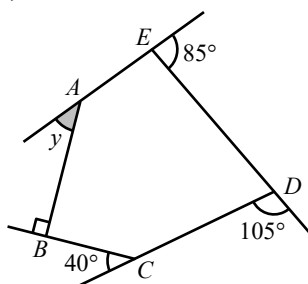
[Reference: *sum of ext.  $\angle$ s of polygon*]

1. In each of the following, find the unknown.

(a)

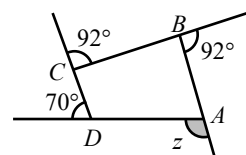


(b)



Demonstration

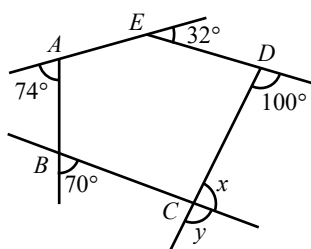
Find  $z$  in the figure.



Solution

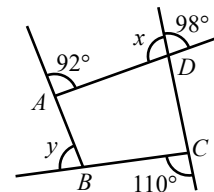
$$\begin{aligned} \therefore z + 70^\circ + 92^\circ + 92^\circ &= 360^\circ \\ &\text{(sum of ext. } \angle\text{s of polygon)} \\ \therefore z &= \underline{106^\circ} \end{aligned}$$

2. Find  $x$  and  $y$  in the figure.



Demonstration

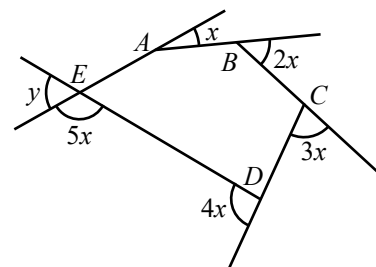
Find  $x$  and  $y$  in the figure.



Solution

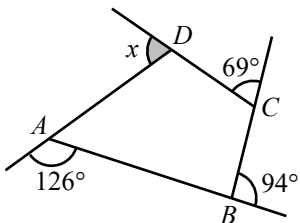
$$\begin{aligned} x + 98^\circ &= 180^\circ \quad (\text{adj. } \angle\text{s on st. line}) \\ x &= \underline{82^\circ} \\ \therefore x + 110^\circ + y + 92^\circ &= 360^\circ \\ &\text{(sum of ext. } \angle\text{s of polygon)} \\ \therefore 82^\circ + 110^\circ + y + 92^\circ &= 360^\circ \\ y &= \underline{76^\circ} \end{aligned}$$

3. Find  $x$  and  $y$  in the figure.

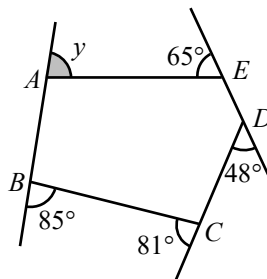


4. In each of the following, find the unknown.

(a)



(b)



5. Find  $x$  and  $y$  in the figure.

