

## Answers

1.  $\angle 2 = 82^\circ$ ;  $\angle 2$  and the given angle are alternate exterior angles.
2.  $\angle 6 = 82^\circ$ ;  $\angle 6$  and the given angle are vertical angles.
3.  $\angle 4 = 82^\circ$ ;  $\angle 4$  and the given angle are corresponding angles.
4.  $\angle 1 = 98^\circ$ ;  $\angle 4$  and  $\angle 1$  are supplementary.
5.  $123^\circ$ ;  $\angle 1$  and  $\angle 7$  are alternate exterior angles.
6.  $122^\circ$ ;  $\angle 2$  and  $\angle 8$  are alternate interior angles and  $\angle 8$  and  $\angle 5$  are supplementary.
7.  $119^\circ$ ;  $\angle 5$  and  $\angle 3$  are alternate interior angles.
8.  $60^\circ$ ;  $\angle 4$  and  $\angle 6$  are alternate exterior angles.
9.  $60^\circ$ ;  $60^\circ$ ;  $60^\circ$
10.  $115^\circ$ ;  $40^\circ$ ;  $25^\circ$
11.  $45^\circ$ ;  $45^\circ$ ;  $90^\circ$
12.  $105^\circ$
13.  $60^\circ$
14.  $\angle 1 = 108^\circ$ ,  $\angle 2 = 108^\circ$ ;  
Because of alternate interior angles, the angle below  $\angle 1$  is  $72^\circ$ . This angle is supplementary to both  $\angle 1$  and  $\angle 2$ .
15. Exterior angle with wall:  
 $180 - 15 = 165^\circ$ ;  
Exterior angle with ground:  
 $180 - 5(15) = 105^\circ$ ;  
 $x + 5x + 90 = 180$   
 $x = 15$