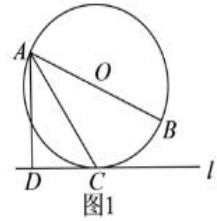


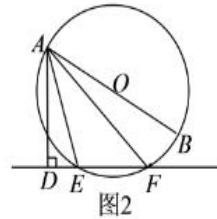
2017-12-22

已知直线 l 与 $\odot O$, AB 是 $\odot O$ 的直径, $AD \perp l$ 于点 D .

(1) 如图①, 当直线 l 与 $\odot O$ 相切于点 C 时, 若 $\angle DAC = 30^\circ$, 求 $\angle BAC$ 的大小.



(2) 如图②, 当直线 l 与 $\odot O$ 相交于点 E 、 F 时, 若 $\angle DAE = 18^\circ$, 求 $\angle BAF$ 的大小.



(1) 如图①, 连接 OC ,

\because 直线 l 与 $\odot O$ 相切于点 C ,

$\therefore OC \perp l$,

$\because AD \perp l$,

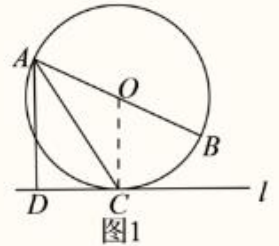
$\therefore OC \parallel AD$,

$\therefore \angle OCA = \angle DAC$,

$\because OA = OC$,

$\therefore \angle BAC = \angle OCA$,

$\therefore \angle BAC = \angle DAC = 30^\circ$; 30° .



(2) 如图②, 连接 BF ,

$\because AB$ 是 $\odot O$ 的直径,

$\therefore \angle AFB = 90^\circ$,

$\therefore \angle BAF = 90^\circ - \angle B$,

$\therefore \angle AEF = \angle ADE + \angle DAE = 90^\circ + 18^\circ = 108^\circ$,

在 $\odot O$ 中, 四边形 $ABFE$ 是圆的内接四边形,

$\therefore \angle AEF + \angle B = 180^\circ$,

$\therefore \angle B = 180^\circ - 108^\circ = 72^\circ$,

$\therefore \angle BAF = 90^\circ - \angle B = 90^\circ - 72^\circ = 18^\circ$.

