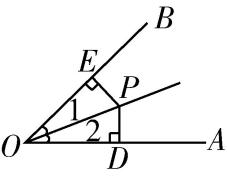
12.3　角的平分线的性质

C:\Users\Administrator\AppData\Roaming\Tencent\Users\694137480\QQ\WinTemp\RichOle\O6A_6CBC]6@V0YKUB7D`ZT1.png

id:2147493810;FounderCES

1*.*如图,∠1*=*∠2,*PD*⊥*OA*,*PE*⊥*OB*,垂足分别为*D*,*E*,则下列结论中错误的是(D)*.*



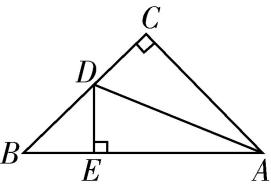
A.*OD=OE*

B.*PD=PE*

C.∠*DPO=*∠*EPO*

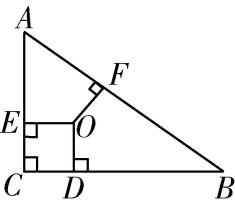
D.*PD=OD*

2*.*如图,△*ABC*中,∠*C=*90°,*AC=BC*,*AD*平分∠*CAB*交*BC*于点*D*,*DE*⊥*AB*于点*E*,且*AB=*6 cm,则△*DEB*的周长为(B)*.*



A.4 cm B.6 cm C.8 cm D.10 cm

3*.*如图,在△*ABC*中,∠*C=*90°,*O*为△*ABC*的三条角平分线的交点,*OD*⊥*BC*,*OE*⊥*AC*,*OF*⊥*AB*,*D*,*E*,*F*分别是垂足,且*AB=*10 cm,*BC=*8 cm,*CA=*6 cm,则点*O*到三边*AB*,*AC*,*BC*的距离分别等于(A)*.*



A.2 cm,2 cm,2 cm

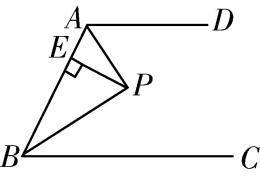
B.3 cm,3 cm,3 cm

C.4 cm,4 cm,4 cm

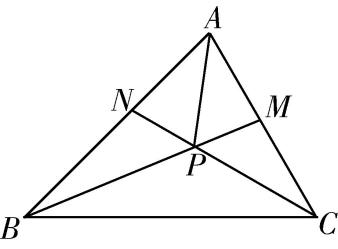
D.2 cm,3 cm,5 cm

4*.*到三角形三条边距离相等的点是三角形的角平分线的交点*.*

5*.*如图,已知*AD*∥*BC*,∠*ABC*的平分线*BP*与∠*BAD*的平分线*AP*相交于点*P*,作*PE*⊥*AB*于点*E.*若*PE=*2,则两平行线*AD*与*BC*间的距离为4*.*



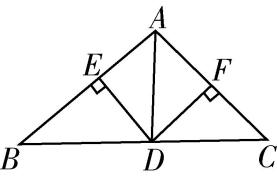
6*.*如图,已知△*ABC*的角平分线*BM*,*CN*相交于点*P.*求证:*AP*平分∠*BAC.*



**答案:**略

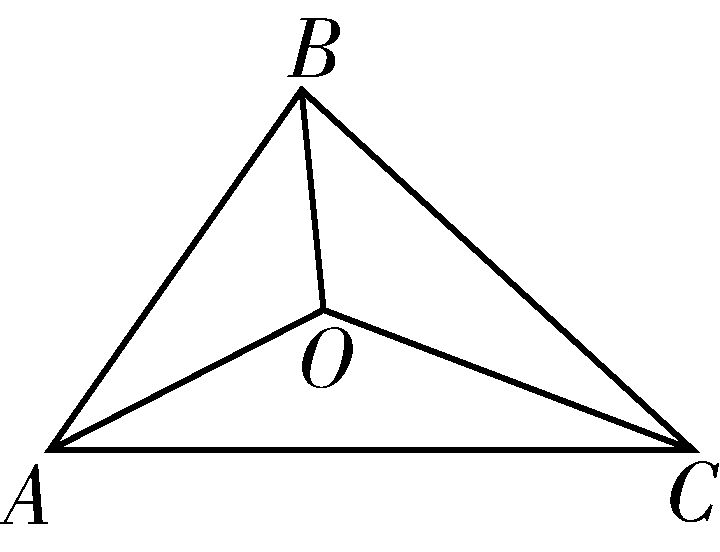


7*.*如图,*AD*是△*ABC*中∠*BAC*的平分线,*DE*⊥*AB*交*AB*于点*E*,*DF*⊥*AC*交*AC*于点*F*,*S*△*ABC=*7,*DE=*2,*AB=*4,则*AC*长是(B)*.*

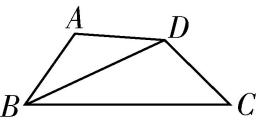


A.4 B.3 C.6 D.5

8*.*如图,△*ABC*的三边*AB*,*BC*,*CA*的长分别为40,50,60*.*△*ABC*的三条角平分线相交于点*O*,则*S*△*ABO∶S*△*BCO∶S*△*CAO=*4*∶*5*∶*6*.*



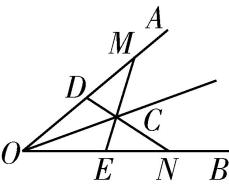
9*.*如图,在四边形*ABCD*中,*BC>BA*,*AD=DC*,*BD*平分∠*ABC*,试猜想∠*A*与∠*C*有什么关系,并说明理由*.*



**解:**∠*A*与∠*C*互补*.*理由如下:过点*D*作*DE*⊥*BA*,交*BA*的延长线于点*E*,*DF*⊥*BC*于点*F.*因为*BD*平分∠*ABC*,所以*DE=DF*,又*AD=CD*,所以Rt△*DAE*≌Rt△*DCF* (HL),则∠*DAE=*∠*C.*所以∠*DAE+*∠*DAB=*∠*C+*∠*DAB=*180°*.*所以∠*A*与∠*C*互补*.*

10*.*如图,在∠*AOB*的两边*OA*,*OB*上分别取 *OM=ON*,*OD=OE*,*DN*和*EM*相交于点*C.*

求证:点*C*在∠*AOB*的平分线上*.*



**证明:**过点*C*作*CG*⊥*OA*于点*G*,*CF*⊥*OB*于点*F.*在△*MOE*和△*NOD*中,因为*OM=ON*,∠*MOE=*∠*NOD*,*OE=OD*,所以△*MOE*≌△*NOD* (SAS)*.*所以*S*△*MOE= S*△*NOD.*所以*S*△*MOE-S*四边形*ODCE=S*△*NOD-S*四边形*ODCE.*所以*S*△*MDC=S*△*NEC.*因为*OM=ON*,*OD=OE*,所以*MD=NE.*由三角形面积公式,得*DM×CG=×EN×CF*,所以*CG=CF.*又*CG*⊥*OA*,*CF*⊥*OB*,所以点*C*在∠*AOB*的平分线上*.*