## Circle Theorems (advanced) - no reasons required

1) In the diagram below, angle $\mathrm{ABC}=38^{\circ}$.


Find the following angles
a) angle BAC
b) angle ADC
2) In the diagram below, angle $\mathrm{ACB}=34^{\circ}$.


Find angle BDC.
3) In the diagram below, angle $\mathrm{ADC}=40^{\circ}$.


Find the following angles
a) angle $x$
b) angle y
4) In the diagram below, angle $\mathrm{BOC}=42^{\circ}$.


Find the following angles
a) angle DAC
b) angle AOB
c) angle BAE
5) AB and BC are tangents to the circle shown below.

Angle $\mathrm{ACB}=59^{\circ}$.


Find angle OAB.
6) In the diagram below, angle $\mathrm{ABD}=89^{\circ}$.


Find the following angles
a) angle ACD
b) angle AED


Find angle DBC.
8) In the diagram below, angle $\mathrm{CAE}=38^{\circ}$.


Find the following angles
a) angle OCA
b) angle DAB

Solutions for the assessment Circle Theorems (advanced) - no reasons required

1) a) angle $\mathrm{BAC}=52^{\circ}$
b) angle $\mathrm{ADC}=52^{\circ}$
2) angle $\mathrm{BDC}=56^{\circ}$
3) a) angle $x=80^{\circ}$
4) a) angle $\mathrm{DAC}=90^{\circ}$
b) angle $y=140^{\circ}$
b) angle $\mathrm{AOB}=138^{\circ}$
c) angle $\mathrm{BAE}=69^{\circ}$
5) angle $\mathrm{OAB}=29.5^{\circ}$
6) a) angle $\mathrm{ACD}=89^{\circ}$
b) angle $\mathrm{AED}=91^{\circ}$
7) angle $\mathrm{DBC}=50^{\circ}$
8) a) angle $\mathrm{OCA}=52^{\circ}$
b) angle $\mathrm{DAB}=52^{\circ}$
