Class Test ❮ 2 ❯

35

Answer all questions. Show your working clearly.

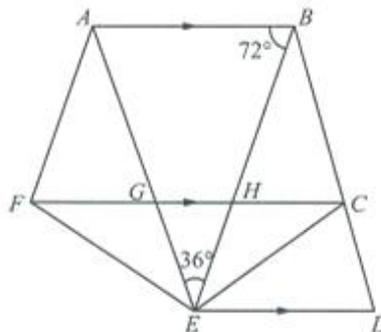1. In the diagram below, *AB // CD // EF* and *FK // CJ*. ∠*HFE* = 48° and ∠*JGH* = 87°.
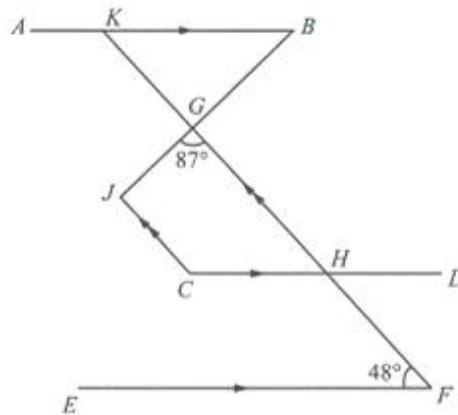
Find
(a) ∠*KBG*,   [1]
(b) reflex ∠*JCH*.   [1]

2. In the diagram below, *ABCEF* is a regular pentagon. *AB // FC // ED*. *BD* is a straight line.
    ∠*ABE* = 72° and ∠*AEB* = 36°.

Find
(a) ∠*BAE*,   [1]
(b) ∠*HFE*,   [2]
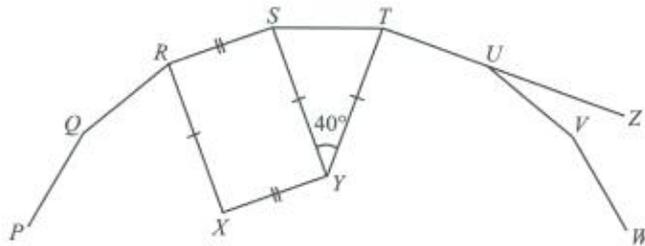(c) ∠*BDE*.   [1]
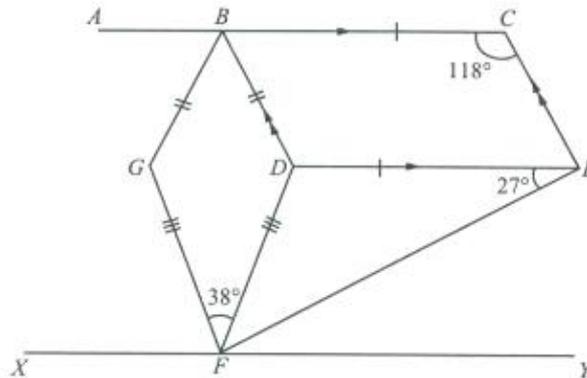
Chapter 10 • *Triangles, Quadrilaterals and Polygons*

3. In the diagram below, *PQRSTUVW* is part of a regular polygon with *n* sides. *RSYX* is a rectangle. $SY = TY$. $\angle STY = 40°$.

Find
(a) the value of *n*,   [2]
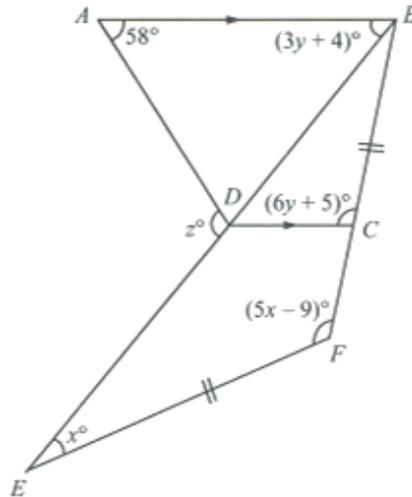(b) $\angle ZUV$.   [1]

4. In the diagram below, *AC* // *DE* // *XY*. *BCED* is a parallelogram and *BDFG* is a kite. $\angle BCE = 118°$, $\angle DEF = 27°$ and $\angle DFG = 38°$.

Find
(a) $\angle BGF$,   [2]
(b) $\angle EDF$,   [1]
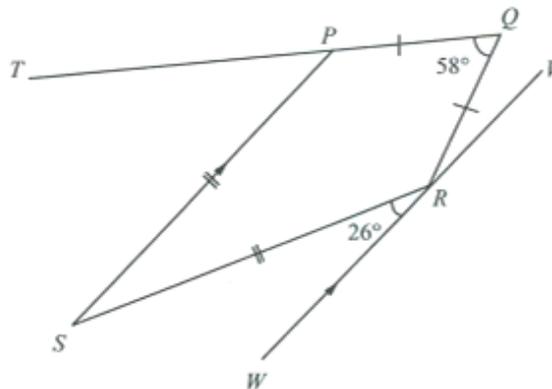(c) $\angle DFE$.   [1]

5. In the diagram below, *AB // DC* and *BF = EF*. ∠*BAD* = 58°.

Find the values of *x*, *y* and *z*. [4]

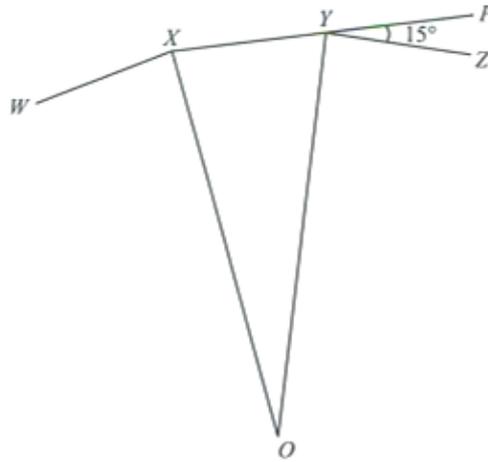6. In the diagram below, *PQRS* is a kite and *SP // WV*. ∠*PQR* = 58° and ∠*SRW* = 26°.

Find
(a) ∠*SPT*, [2]
(b) ∠*QRV*. [1]

Chapter 10 • Triangles, Quadrilaterals and Polygons

7. In the diagram below, *WXYZ* is part of a *n*-sided regular polygon. ∠*PYZ* = 15° and *O* is the centre of the polygon.

Find
(a) the value of *n*,   [1]
(b) ∠*XOY*,   [1]
(c) ∠*OYZ*.   [1]

8. In the diagram below, △*PQR* and △*VTR* are right-angled triangles. *ST* = *RT* and ∠*RST* = 36°.

Find
(a) ∠*VTX*,   [2]
(b) ∠*XQT*.   [1]
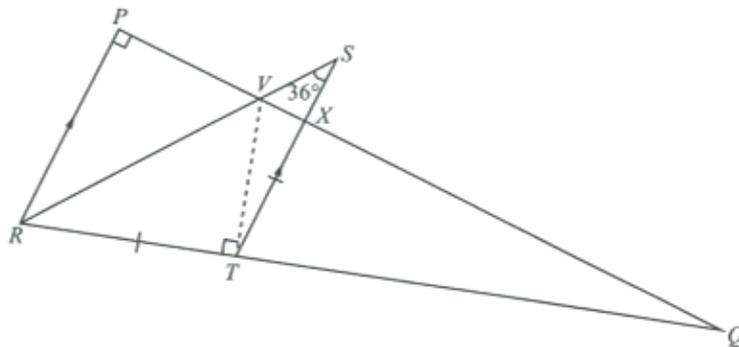
Chapter 10 • *Triangles, Quadrilaterals and Polygons*

9. In the diagram below, *PQRSTV* is a regular hexagon. △*RWS* is formed by *QR* and *TS* produced to meet at point *W*.
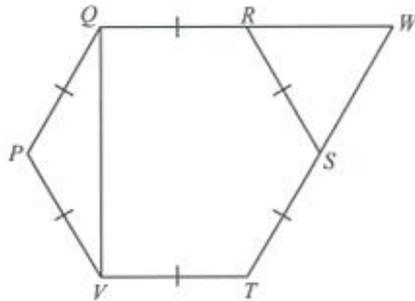
(a) Find ∠*PQV*.   [2]
(b) Find ∠*RWS*.   [1]
(c) What type of triangle is △*RWS*?   [1]

10. In the diagram below, *ABCD* is a parallelogram. *AB* // *GH* and *DA* // *CB*. ∠*ABC* = 52°, ∠*ACD* = 81° and ∠*FEH* = 128°.
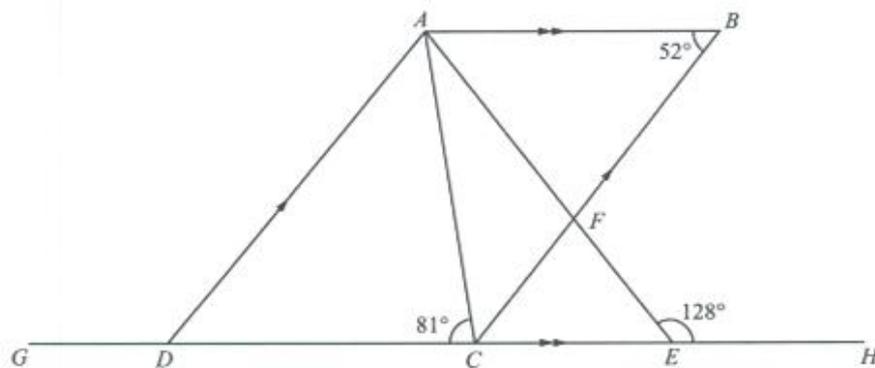
(a) Find ∠*DAC*.   [1]
(b) Find
    (i) ∠*CAE*,   [1]
    (ii) ∠*AFB*.   [1]
(c) Prove that the interior angles of △*ABF* and △*ECF* are equal. [2]