Higher Order Thinking Skills

Primary 5

Lesson 8:
Geometry

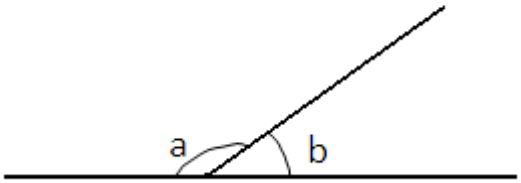
enquiry@mathsheuristics.com
www.mathsheuristics.com
www.facebook.com/mathsheuristics

LESSON 8 Geometry (I)

Properties of Angles

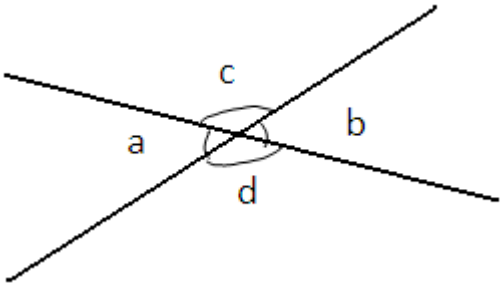
1. Angle on a straight line:

   $\angle a + \angle b =$



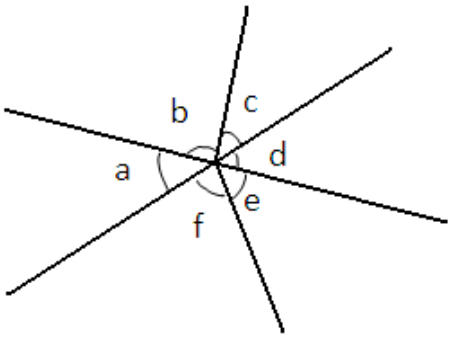
2. Vertically opposite angles:

   $\angle a =$
   $\angle c =$



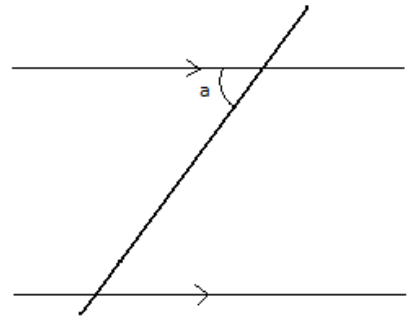
3. Angles at a point:

   $\angle a + \angle b + \angle c + \angle d + \angle e + \angle f =$



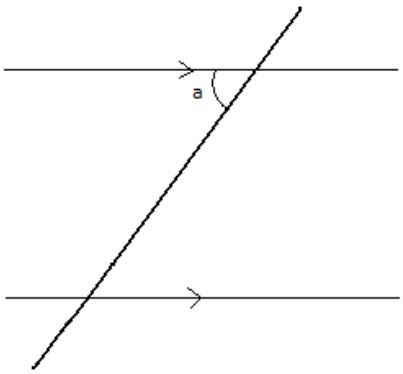
4. Alternate Angles

$\angle a =$



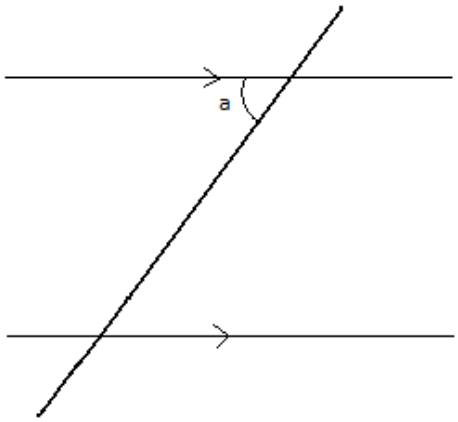
5. Corresponding Angles

$\angle a =$



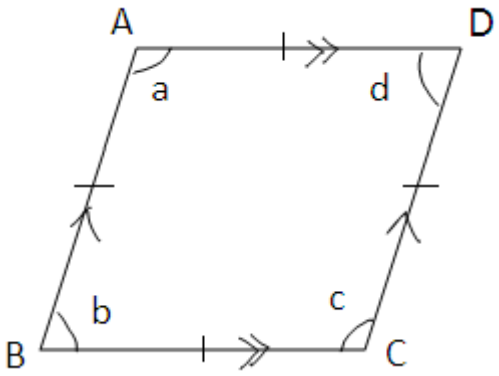
6. Interior Angles between parallel lines

$\angle a + \angle b =$



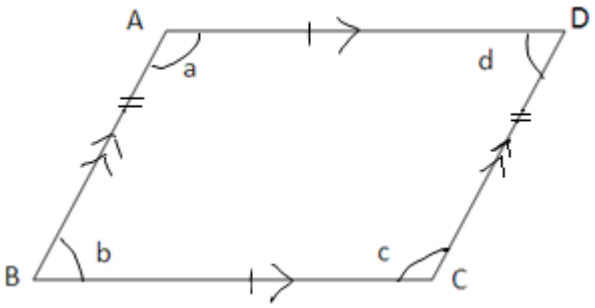
7. RHOMBUS:

Opposite sides are _____
AB = BC = CD = AD
∠ a =
∠ b =
∠ a + ∠ d =
∠ b + ∠ c =
ABD, BCD, ADC and ABC are _____.



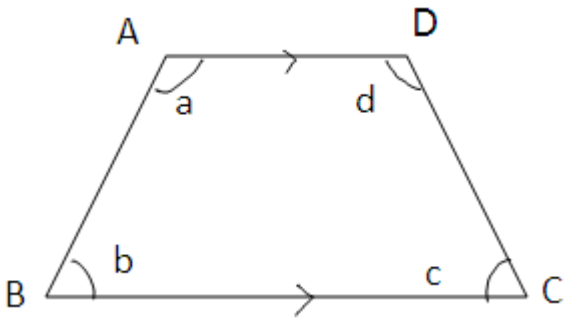
8. PARALLELOGRAM:

Opposite sides are _____
AB =
AD =
∠ a =
∠ b =
∠ a + ∠ b =
∠ c + ∠ d =



9. TRAPEZIUM:

One pair of parallel sides; AD // BC
$\angle a + \angle b =$
$\angle c + \angle d =$

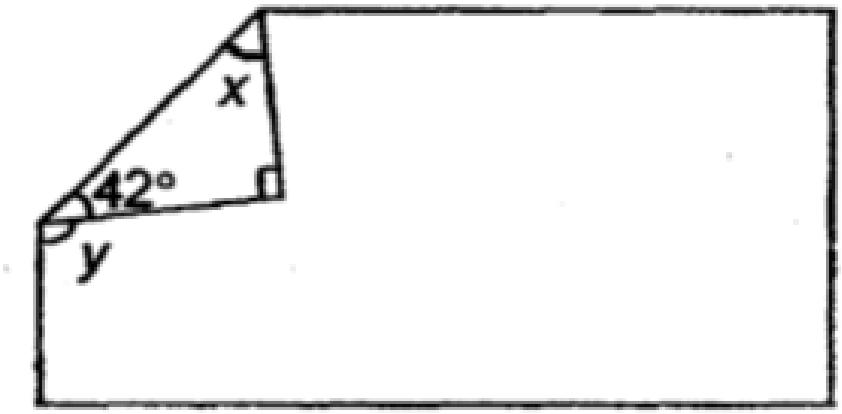


GUIDED EXAMPLE 1

A rectangular piece of paper is folded as shown.
Find:

a) $\angle x$

b) $\angle y$

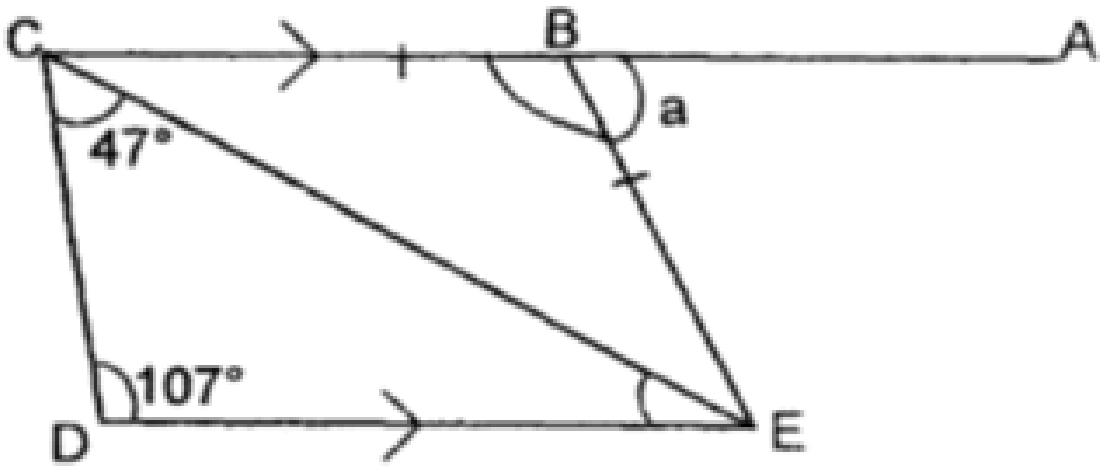


(MGS P5)

GUIDED EXAMPLE 2

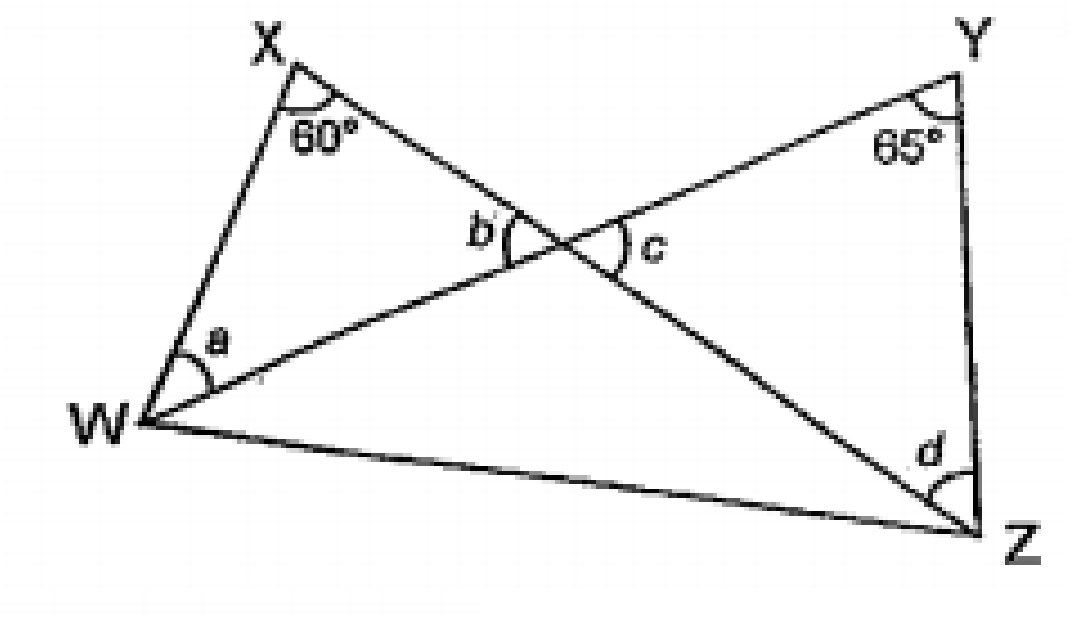
In the figure below, ABC is a straight line.
CBE is an isosceles triangle,
CB and DE are parallel lines.
Find ∠a.

(RGPS P5)



GUIDED EXAMPLE 3

The diagram below, not drawn to scale, is made up of 2 overlapping triangles WXZ and WYZ.
Find the sum of ∡a, ∡b, ∡c and ∡d.



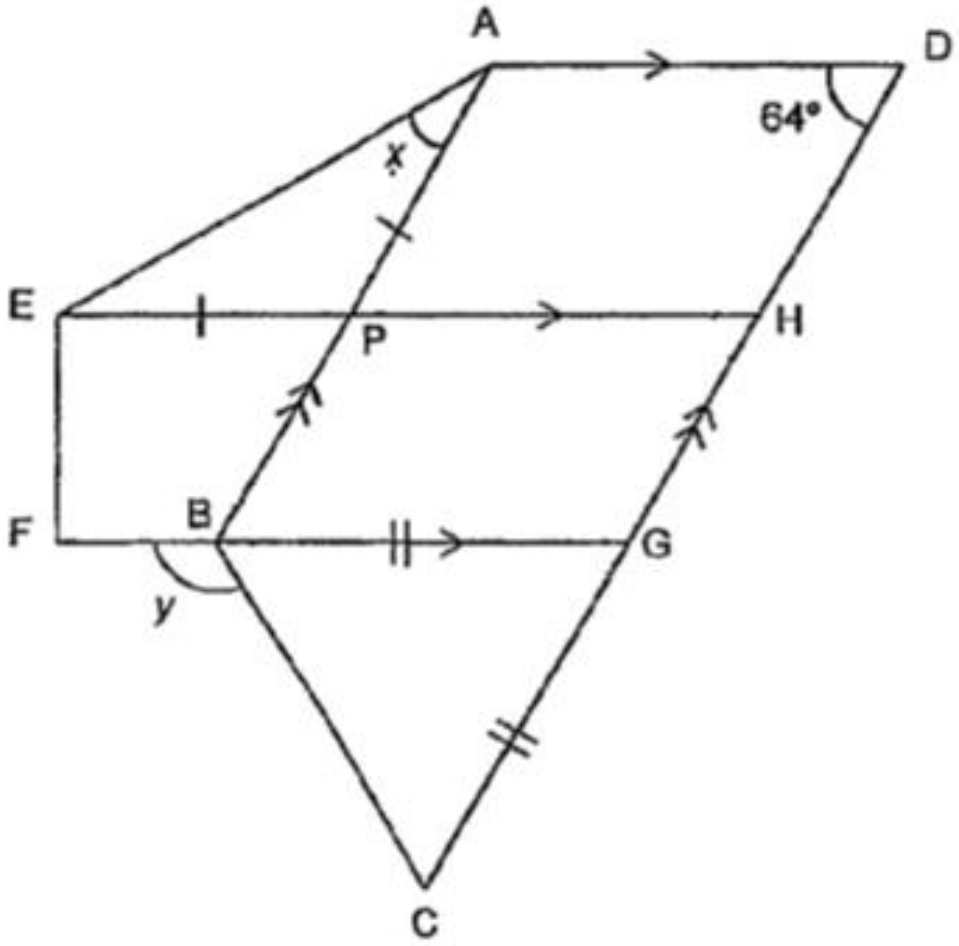
(Nan Hua P5 CA2)

GUIDED EXAMPLE 4

In the figure below, ADHE, ADCB and EHGF are trapeziums.
APE and BGC are isosceles triangles.
$\measuredangle ADH = 64°$.

a) Find $\measuredangle x$.

b) Find $\measuredangle y$.



(Henry Park P5 SA2 2014)

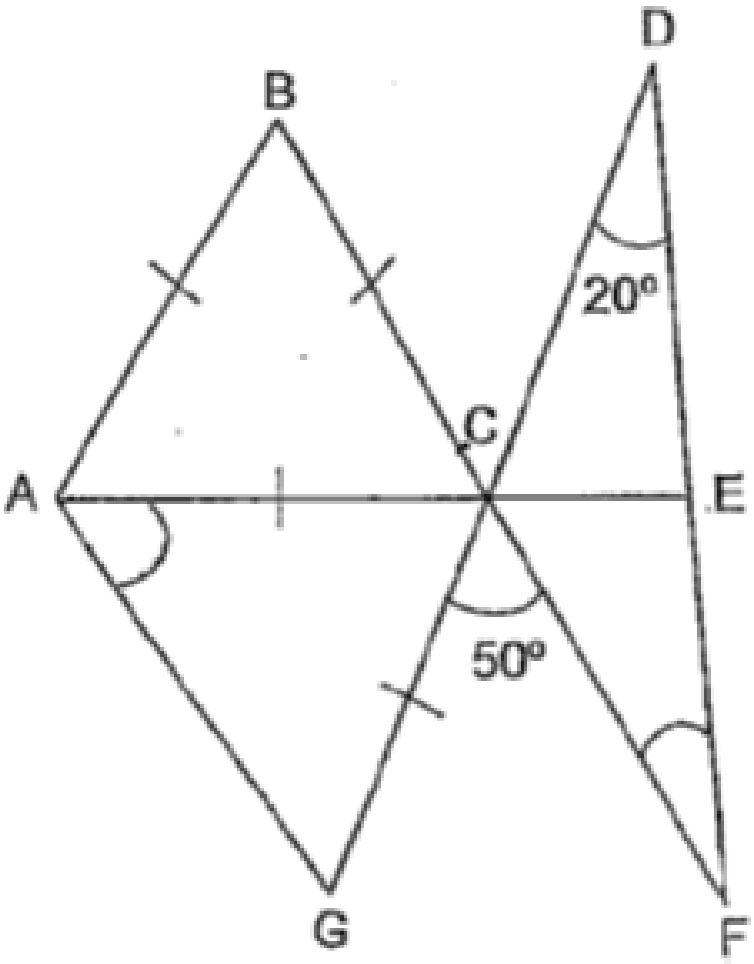
GUIDED EXAMPLE 5

In the figure below, not drawn to scale,
ABC is an equilateral triangle and ACG is an isosceles triangle.
BCF, DCG and ACE are straight lines.
$\measuredangle CDF = 20°$ and $\measuredangle FCG = 50°$.

a) Find $\measuredangle CAG$

b) Find $\measuredangle CFE$

(ACS P5 SA2)



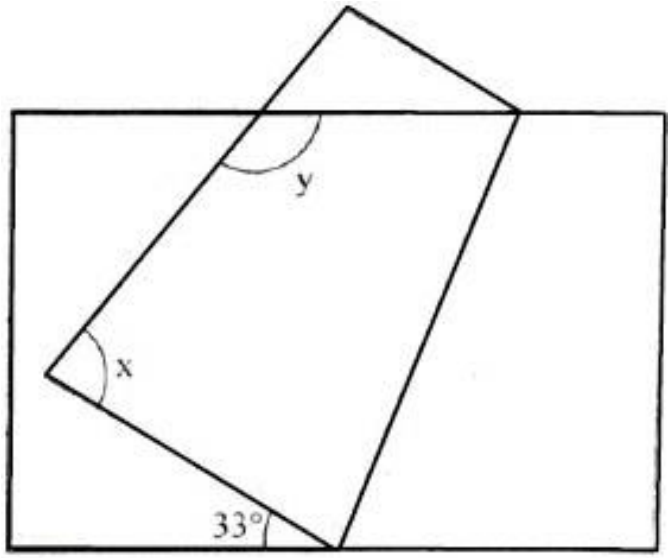
BUILD YOUR UNDERSTANDING

1. A rectangular piece of paper is folded as shown below.
Find

a) $\angle x$

b) $\angle y$

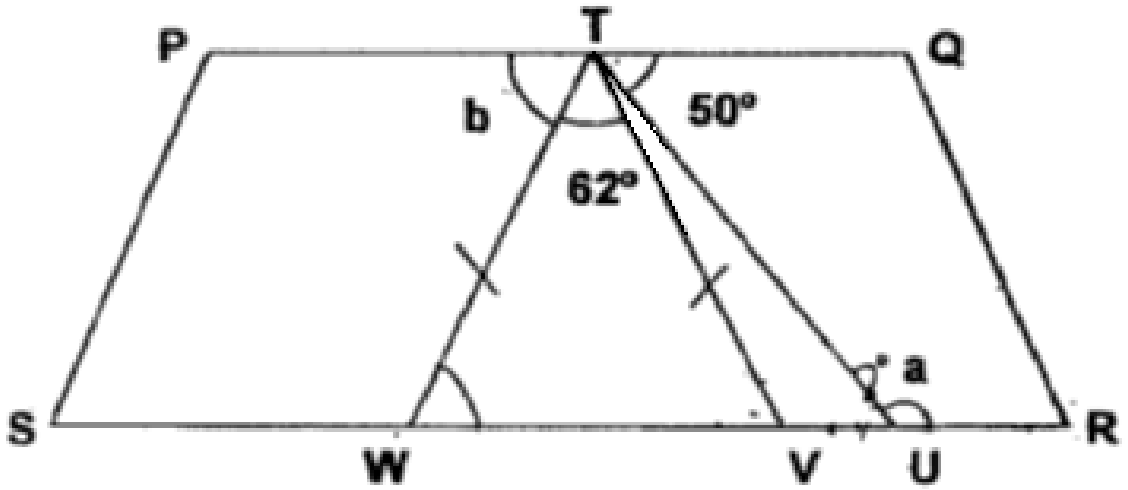
(Henry Park Pri/P6 Prelim/Q44)



2. In the figure below, not drawn to scale, PQRS is a trapezium and TVW is an isosceles triangle.

   a) Find ∠a.

   b) Find ∠b.

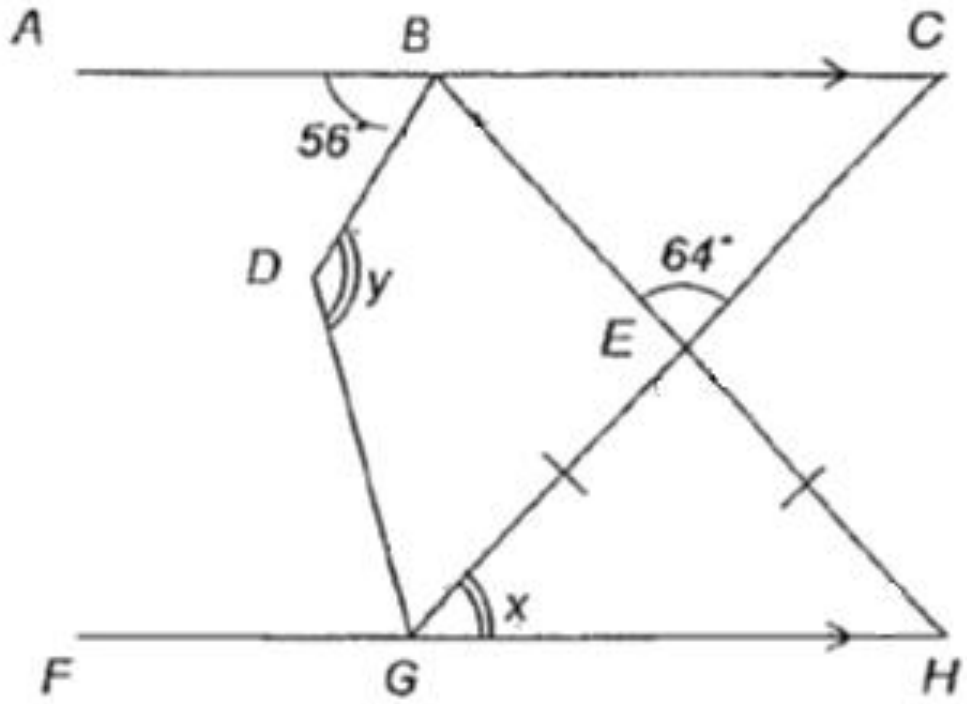


(Tao Nan P5 SA2)

3. In the figure below, line AC is parallel to line FH.
Line GC cuts ∠DGH into half.
Given that ∠ABD = 56° and ∠BEC = 64°, find:

a) the value of ∠x and

b) the value of ∠y

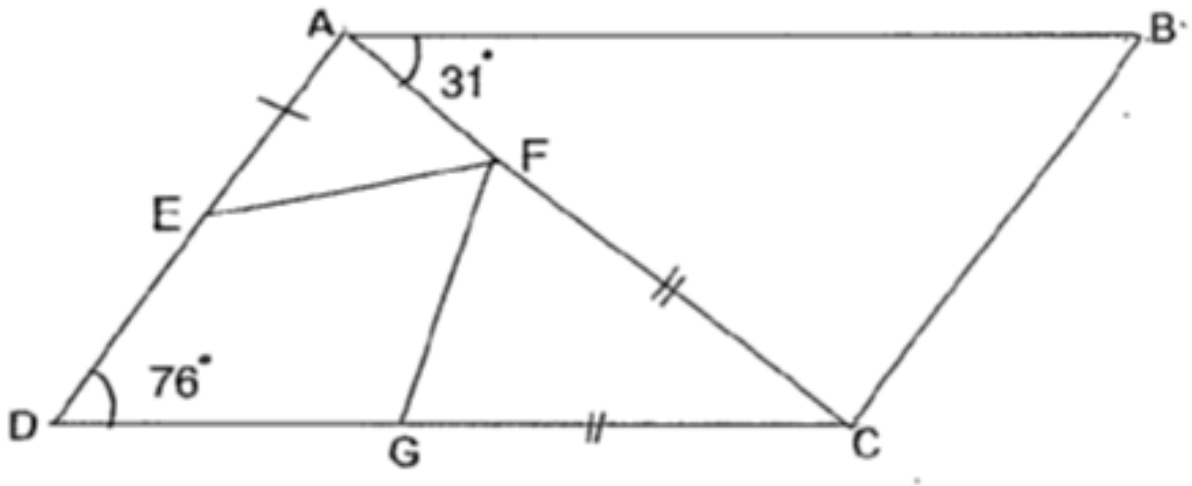


(SCGS P5 SA2)

4. The figure below is not drawn to scale.
ABCD is a parallelogram.
AFC is a straight line.
AF = AE and CF = CG.
∡ADG = 76° and ∡BAC = 31°.

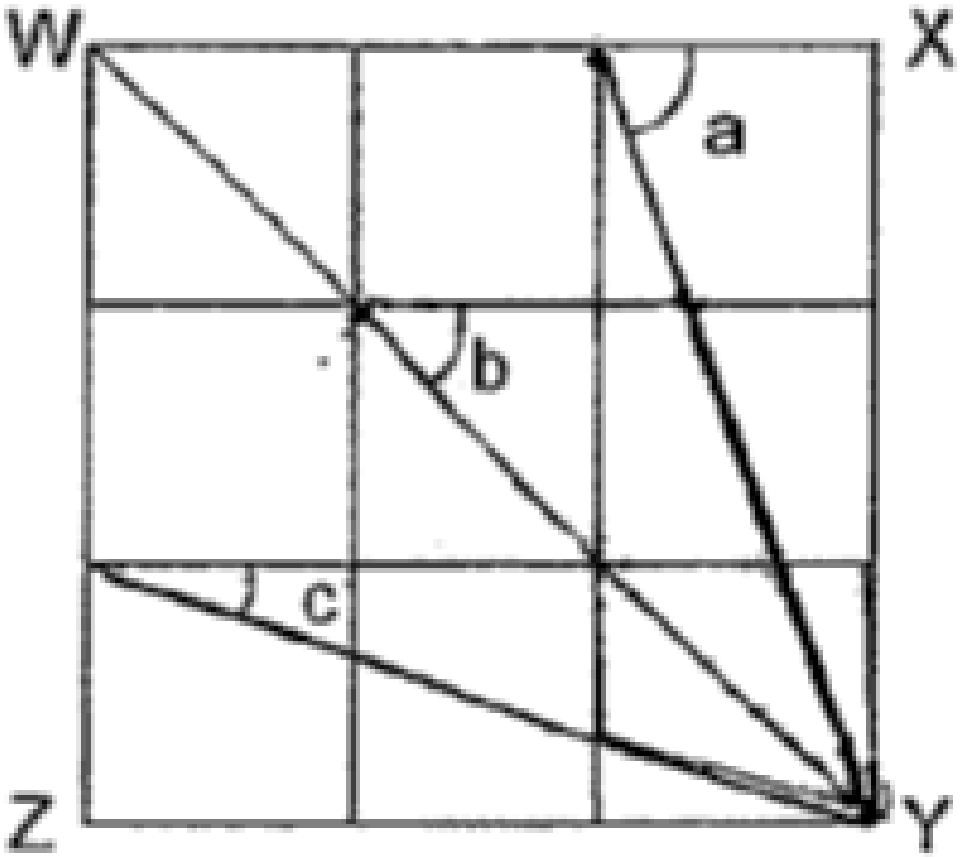
a) Find ∡DEF.

b) Find ∡EFG.



(Nanyang P5 SA2)

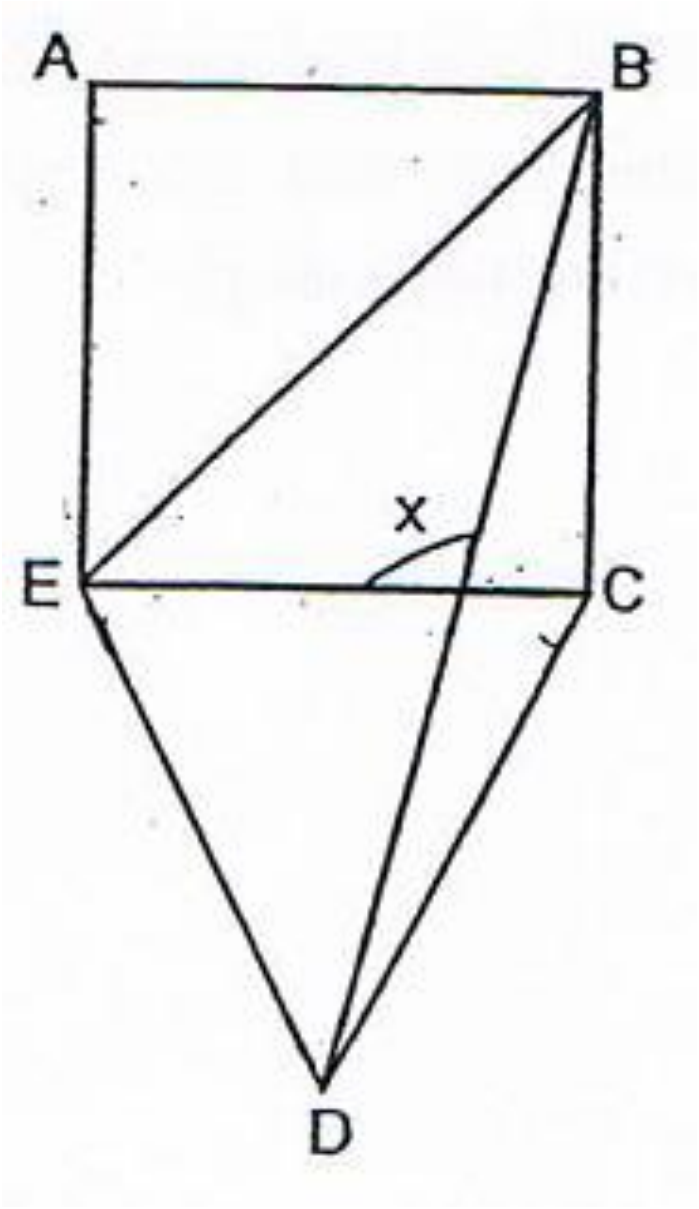
5. In the figure below, WXYZ is a square which is made up of 9 identical squares.
Find the sum of $\measuredangle \boldsymbol{a}, \measuredangle \boldsymbol{b}$ **and** $\measuredangle \boldsymbol{c}$.



(Henry Park P5 SA2)

6. In the figure below, not drawn to scale,
ABCE is a square and EDC is an equilateral triangle.
Find ∠x.

(ACS P5 SA2 Paper 2 Q16)



7. In the figure below (not drawn to scale), AF // BG and CD // AB.
Find

(a) ∠ ABC
(b) ∠ EDC

(Christian Brothers' School/P6 Prelim/Q41)