



MATHS

NCERT - NCERT Maths(Hinglish)

UNDERSTANDING QUADRILATERALS

Solved Examples

1. RENT is a rectangle (Fig 3.41). Its diagonals meet at O . Find x , if

$$OR = 2x + 4 \text{ and } OT = 3x + 1$$



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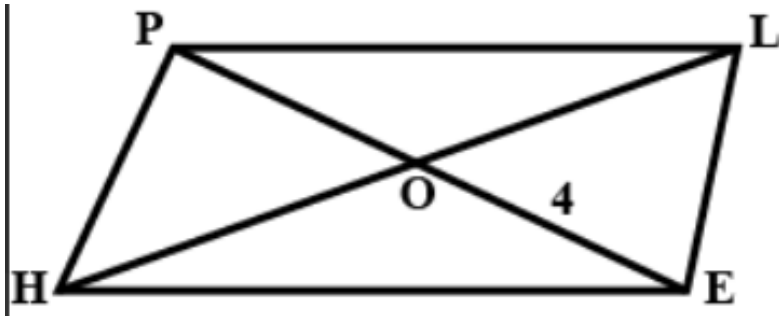
2. In Fig 3.26, BEST is a parallelogram. Find the values x , y and z .



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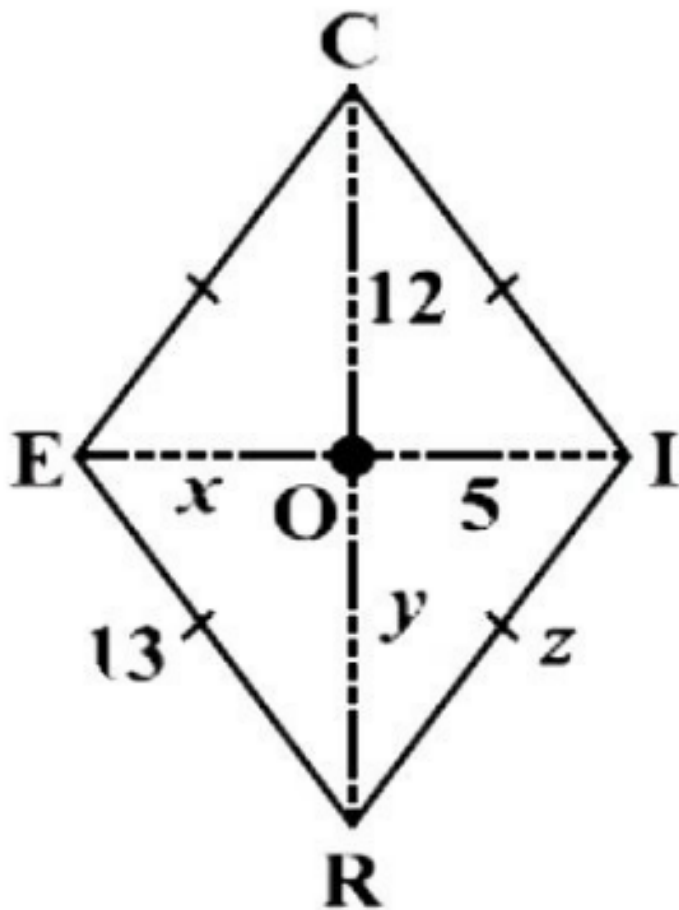
3. : In Fig 3.31 HELP is a parallelogram. (Lengths are in cms). Given that $OE = 4$ and HL is 5 more

than PE? Find OH



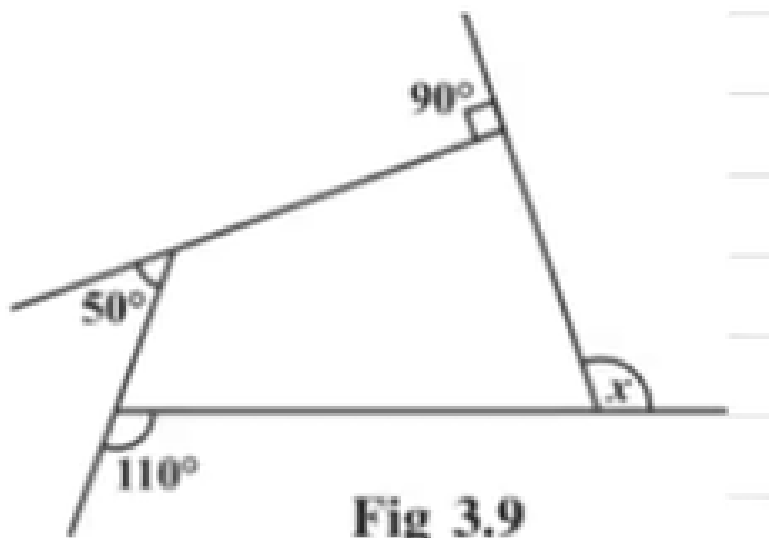
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4. RICE is a rhombus (Fig 3.36). Find x, y, z . Justify your findings.



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5. Find measure x in Fig 3.9.



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6. Find the number of sides of a regular polygon whose each exterior angle has a measure of 45° .



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7. Find the perimeter of the parallelogram PQRS (Fig 3.22).



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Exercise 3 2

1. Find the measure of each exterior angle of a regular polygon of (i) 9 sides (ii) 15 sides



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2. How many sides does a regular polygon have if the measure of an exterior angle is 24° ?

A. 15

B. 16

C. 17

D. 18

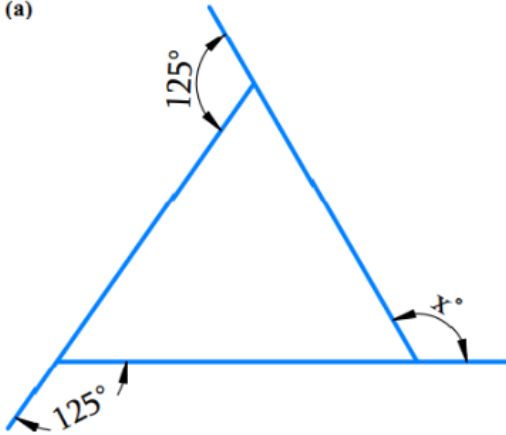
Answer: A



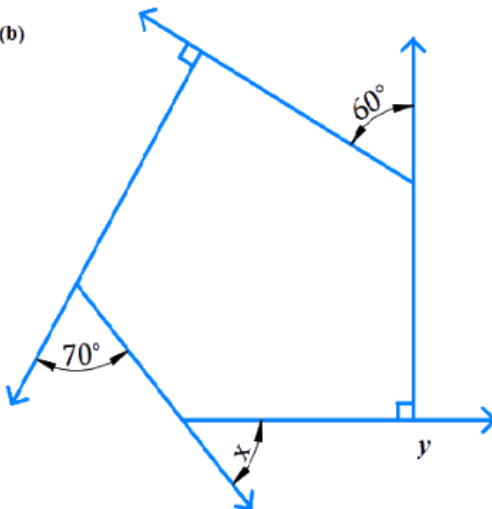
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3. Find x in the following figures.

(a)



(b)



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4. (a) What is the minimum interior angle possible for a regular polygon? Why?

(b) What is the maximum exterior angle possible for a regular polygon?



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5. How many sides does a regular polygon have if each of its interior angles is 165° ?

A. 21

B. 22

C. 23

D. 24

Answer: D



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6. (a) Is it possible to have a regular polygon with measure of each exterior angle as 22° ?

b) Can it be an interior angle of a regular polygon? Why?

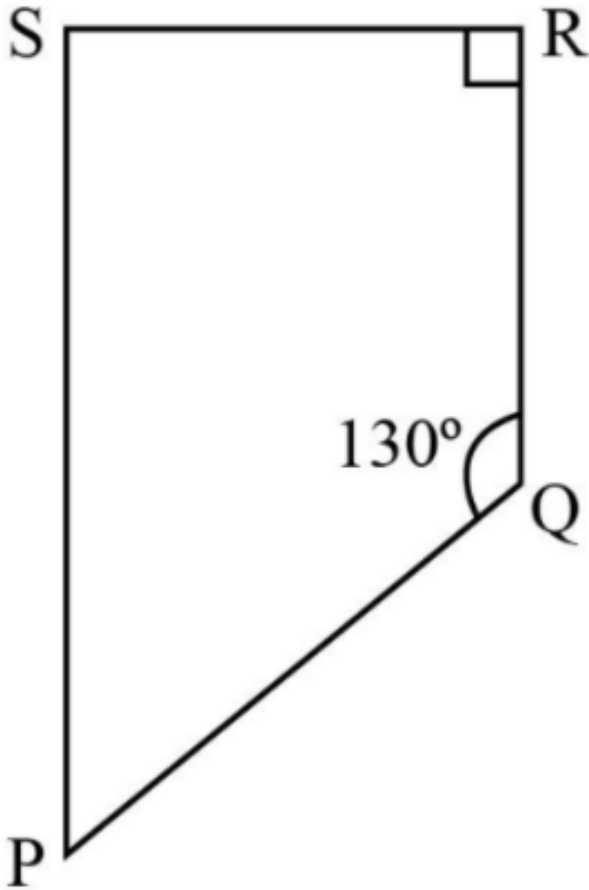


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Exercise 3 3

1.. Find the measure of $\angle P$ and $\angle S$ if $SP \parallel RQ$ in Fig 3.34. (If you find $m\angle R$, is there more than

one method to find $m\angle P$?)



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2. Explain how this figure is a trapezium. Which of its two sides are parallel? (Fig 3.32)



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3. Find $m\angle C$ in fig 3.33 if $AB \parallel DC$



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4. Given a parallelogram $ABCD$. Complete each statement along with the definition or

property used. (i) $\angle A = \angle D$ (ii) $\angle C + \angle D = 180^\circ$ (iii)

$\angle C = \angle A$ (iv) $\angle C + \angle D = \angle A + \angle B$



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5. Can a quadrilateral $ABCD$ be a parallelogram if

(i) $\angle D + \angle B = 180^\circ$?

(ii)

$AB = DC = 8\text{cm}$, $AD = 4\text{cm}$ and $BC = 4.4\text{cm}$

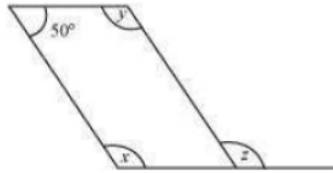
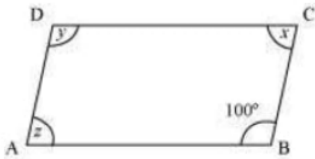
?

(iii) $\angle A = 70^\circ$ and $\angle C = 65^\circ$?

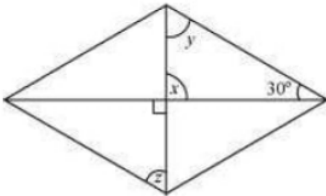


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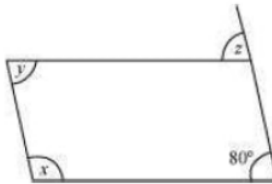
6. Consider the following parallelograms. Find the values of the unknowns x , y , z .



(i)

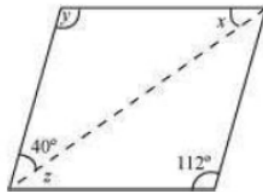


(ii)



(iii)

(iv)



(v)



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7. The measures of two adjacent angles of a parallelogram are in the ratio 3:2. Find the measure of each of the angles of the parallelogram.

A. $72^\circ, 108^\circ, 72^\circ, 108^\circ$

B. $62^\circ, 108^\circ, 62^\circ, 108^\circ$

C. $72^\circ, 118^\circ, 72^\circ, 118^\circ$

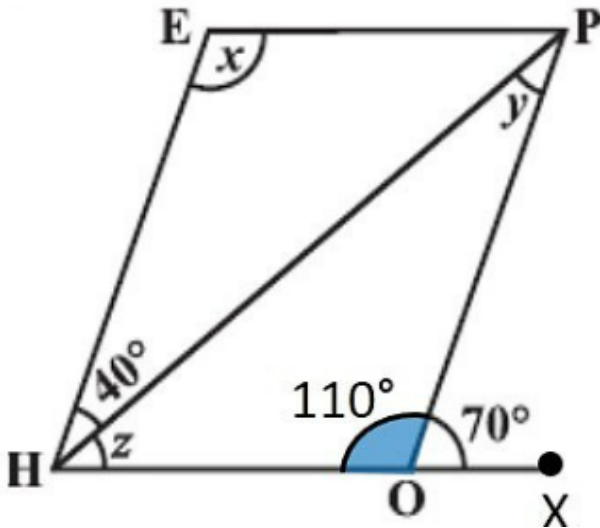
D. $70^\circ, 108^\circ, 70^\circ, 108^\circ$

Answer: A



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8. The adjacent figure HOPE is a parallelogram. Find the angle measures x , y and z . State the properties you use to find them





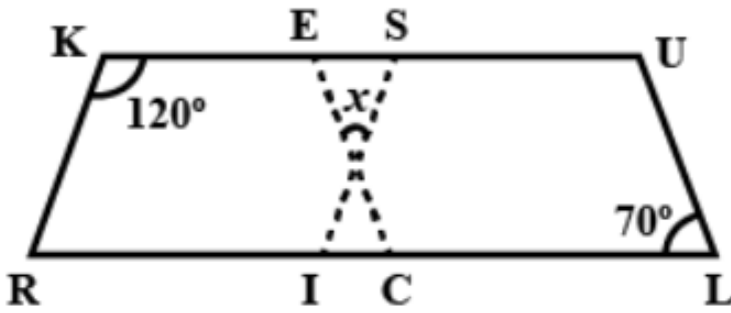
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9. Two adjacent angles of a parallelogram have equal measure. Find the measure of each of the angles of the parallelogram.



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10. In the above figure both RISK and CLUE are parallelograms. Find the value of x .

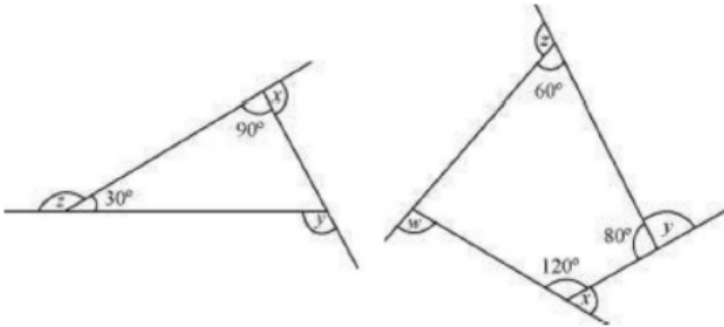


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11. The following figures GUNS and RUNS are parallelograms. Find x and y . (Lengths are in cm)

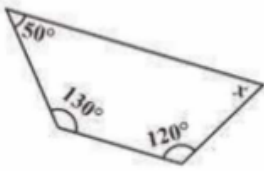
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1. (a) Find $x + y + z$ (b) Find $x + y + z + w$

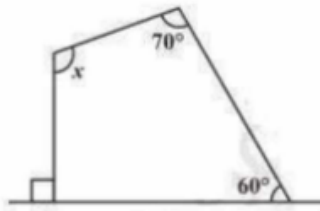


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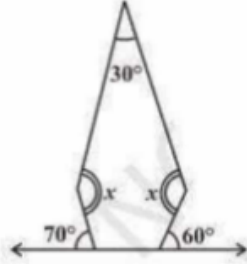
2. Find the angle measure x in the following figures.



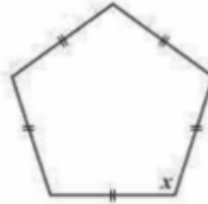
(a)



(b)



(c)



(d)



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