MATHS

NCERT - NCERT MATHEMATICS(ENGLISH)

UNDERSTANDING QUADRILATERALS

Exercise 3 1

---

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

▶ **Watch Video Solution**

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

> ▶ **Watch Video Solution**

Solved Examples

1. RENT is a rectangle (Fig 3.41). Its diagonals meet at O. Find x, if $OR = 2x + 4$ and $OT = 3x + 1$
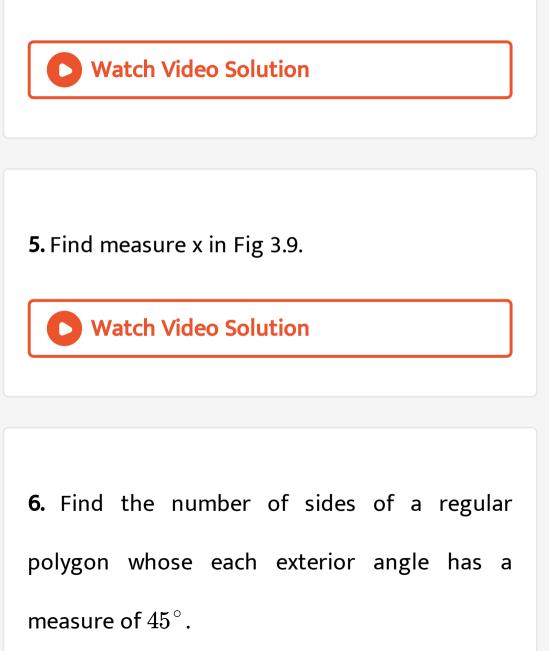
2. In Fig 3.26, BEST is a parallelogram. Find the values x, y and z.

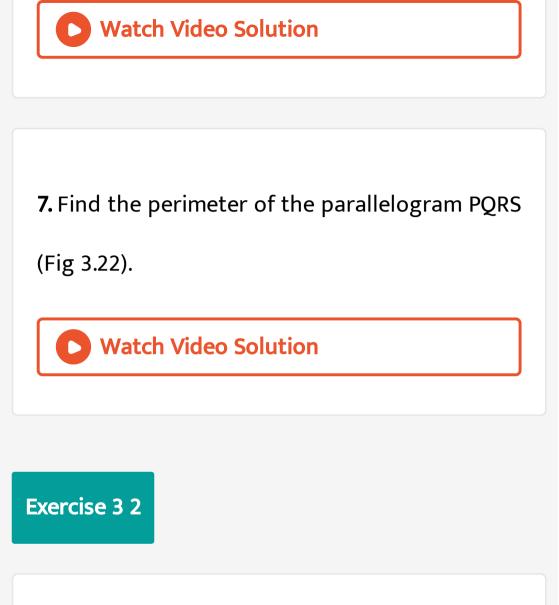**3.** In Fig 3.31 HELP is a parallelogram. (Lengths are in cms). Given that $OE = 4$ and HL is 5 more than PE? $F \in d$OH.`

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

5. Find measure x in Fig 3.9.

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

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

Exercise 3 2

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

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

3. Find x in the following figures.

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?

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

    A. 21

    B. 22

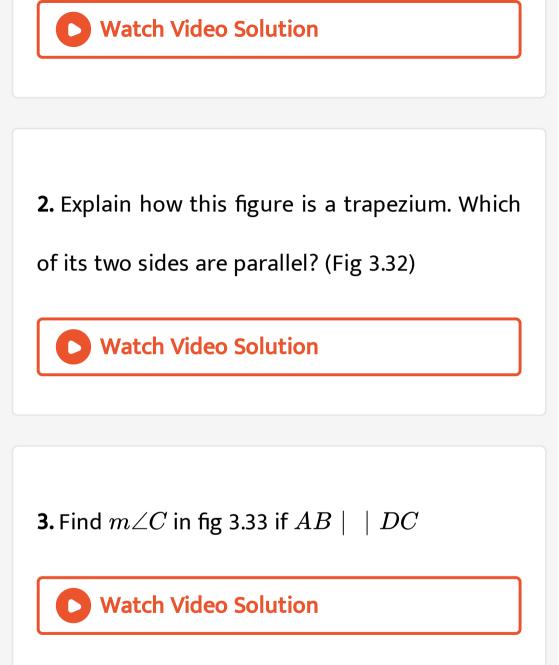   C. 23

    D. 24

Answer: D

▶ **Watch Video Solution**

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?
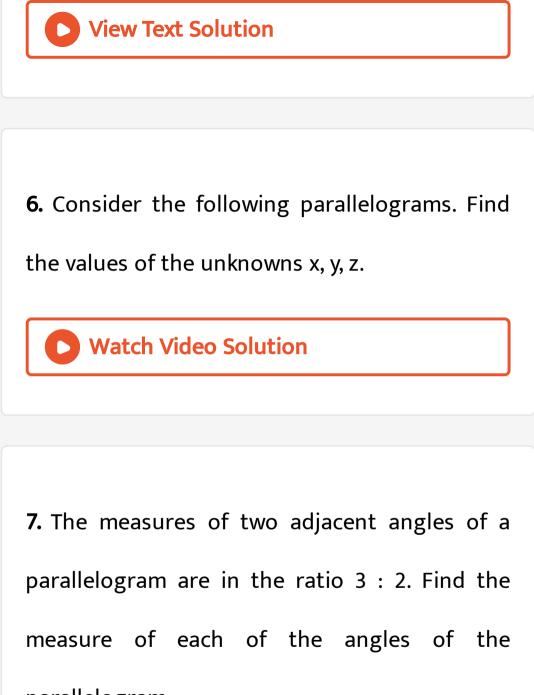
▶ **Watch Video Solution**

Exercise 3 3

1. Find the measure of $c < P$ and $< S$ if $\overrightarrow{SP} \mid \mid \overrightarrow{RQ} \in$ Fing 3.34. (If you find $m < R$, is there m or ethano $\neq$ method of find $m < p$

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

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

4. Given below is a parallelogram $ABCD$. Complete each statement along with the definition or property used. (I) $AD =$ (ii) $\angle DCB =$ (iii) $OC =$ (iv) $\angle DAB + \angle CDA =$

5. Can a quadrilateral $ABCD$ be a parallelogram if (i) $< D + < B = 180°$? (ii) $AB = DC = 8cm$, $AD = 4cm$ and $BC = 4.4cm$? (iii) $A = 70°$ and $< C = 65°$?

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

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. $72°, 108°, 72°, 108°$

B. $62°, 108°, 62°, 108°$

C. $72°, 118°, 72°, 118°$

D. $70°, 108°, 70°, 108°$

Answer: A

▶ **Watch Video Solution**

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

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

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

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

▶ Watch Video Solution