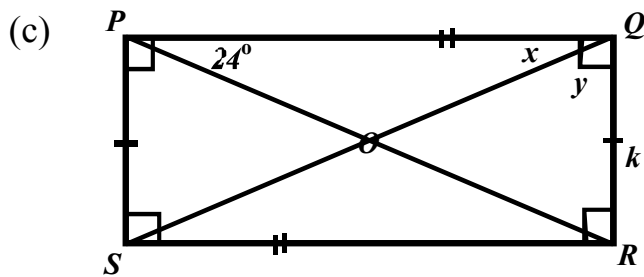
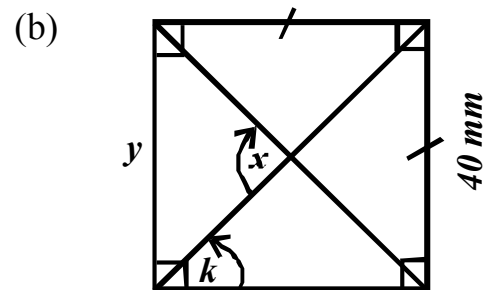
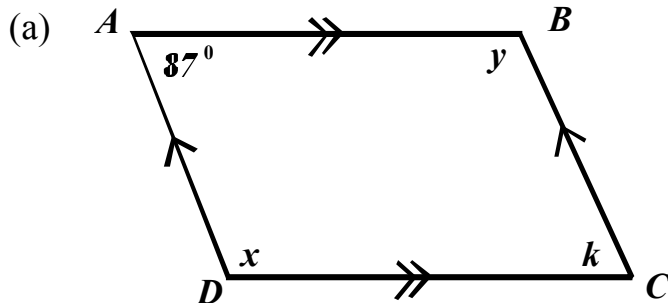
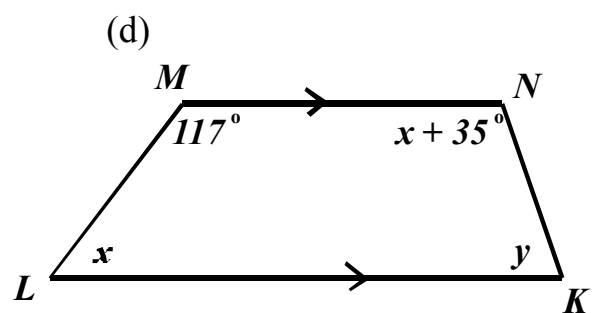


Exercise 2015-8EO-00003(1)

- (1) Determine the value(s) of x , y and/or k in each of the following sketches. Also give complete reasons and show all calculations.



$$SQ = 17 \text{ and } SR = 15$$

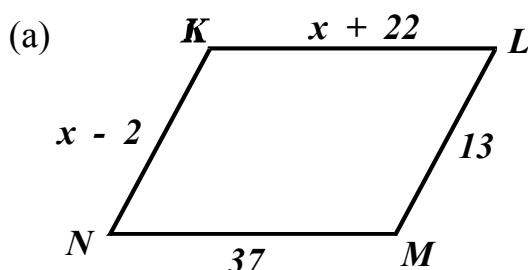


- (2) Give the definitions of the following quadrilaterals:

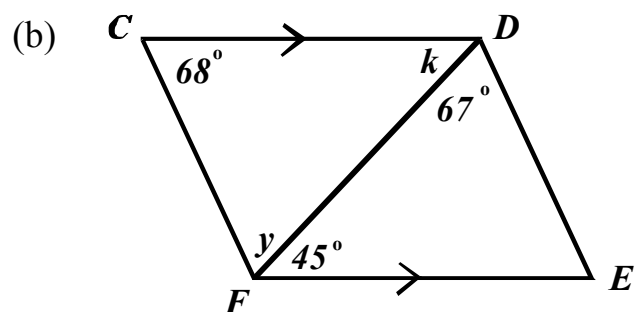
(a) Parallelogram

(b) Trapezium

- (3) Prove the following quadrilaterals to be parallelograms. Show all steps and calculations.



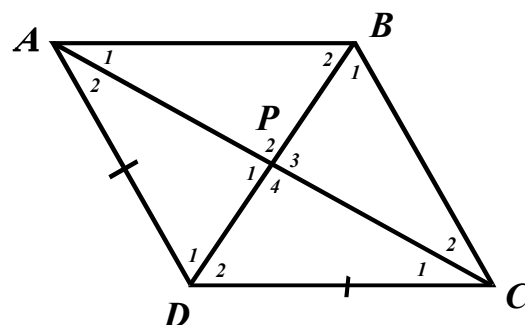
$$x = 15^\circ$$



- (4) (a) Construct $AB = 6$ cm.
 (b) Construct $\hat{CAB} = 60^\circ$.
 (c) Mark $AC = 60$ mm.
 (d) Construct $\hat{ACD} = 120^\circ$, with $CD = 6$ cm.
 (e) Join B and D .
 (f) Measure: DB , $\hat{B}$ and $\hat{D}$
 (g) What type of quadrilateral will $ABDC$ be? Motivate your answer.

- (5) (a) What will the sum of the interior angles of a regular nonagon be?
 (b) What will the size of each individual interior angle of a regular nonagon be?
 (c) What will the size of an exterior angle of a regular nonagon be?

- (6) $AB \parallel DC$ and $AD \parallel BC$ in the diagram.
 Use the sketch and fill in the missing parts:



Statement:

Reason:

(a) ABCD is a parallelogram _____

(b) ABCD is a rhombus _____

(c) $\hat{A}_1 = \hat{C}_1$ _____

(d) $\hat{D}_1 = \hat{D}_2$ _____

(e) _____ Diagonals $\perp$ on one another

(f) _____ Opposite sides of rhombus are equal