

M A T H E M A T I C S 9

Name: _____

Score: _____

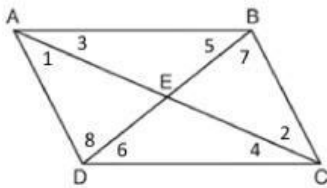
Grade Level/Section: _____

Date: _____

WORKSHEET

I. Conditions that Make a Quadrilateral a Parallelogram

Directions: Use the figure below. Identify the condition that guarantees the quadrilateral ABCD a parallelogram. Choose the correct letter of your answer inside the box .



- | | | |
|---|---|---|
| <ul style="list-style-type: none"> A. opposite sides are parallel and congruent. B. consecutive angles are supplementary. | <ul style="list-style-type: none"> C. opposite sides is congruent. | <ul style="list-style-type: none"> D. opposite angles is congruent. E. diagonals bisect each other. |
|---|---|---|

_____ 1.) $AD = 3\text{ cm}, BC = 3\text{ cm}$
 $AB = 6\text{ cm}, DC = 6\text{ cm}$

_____ 6.) $EA \cong EC, ED \cong EB$

_____ 2.) $DE = 4\text{ cm}, BE = 4\text{ cm}$
 $AE = 6\text{ cm}, CE = 6\text{ cm}$

_____ 7.) $AB \cong CD, AD \cong CB$

_____ 3.) $m\angle ABC = 115, m\angle BCD = 65$
 $m\angle BAD = 65, m\angle ADC = 115$

_____ 8.) $AB \cong CD, AB \parallel CD$

_____ 4.) $AB = 10\text{ cm}, DC = 10\text{ cm}$
 $AB \parallel DC$

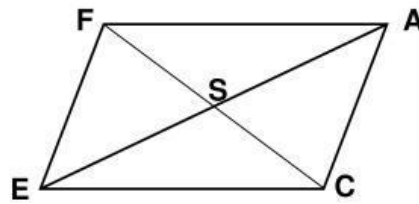
_____ 9.) $\angle A \cong \angle C, \angle B \cong \angle D$

_____ 5.) $AB = 5\text{ cm}, CD = 5\text{ cm}$
 $BC = 5\text{ cm}, AD = 5\text{ cm}$

_____ 10.) $AE = \frac{1}{2} AC, BE \cong DE$

II. Find Measures of Angles, Sides and Other Quantities Involving Parallelograms

Directions: Complete the table below using the parallelogram



	If the value of the following is:	Then :			
SIDES	1.) $FE = 20$	$AC =$			
	2.) $FA = 25$	$EC =$			
	3.) $FE = 2x$ and $AC = x + 5$	$x =$	$FE =$	$AC =$	
	4.) $EC = 3x + 1$ and $FA = 5x - 9$	$x =$	$EC =$	$FA =$	
DIAGONALS	5.) $FC = 36$	$FS =$			
	6.) $SA = 8$	$EA =$			
	7.) $ES = 12$	$AS =$			
	8.) $FS = 10$	$CS =$			
	9.) $ES = 3x$ and $AS = 6x - 6$	$x =$	$ES =$	$AS =$	$EA =$
	10.) $FS = 30$ and $SC = 6x - 12$	$x =$	$SC =$	$FC =$	
ANGLES	11.) $\angle F = 110$	$\angle C =$			
	12.) $\angle A = 70$	$\angle E =$			
	13.) $\angle F = 130$	$\angle E =$			
	14.) $\angle C = 50$	$\angle E =$			
	15.) $\angle A = 5x - 2$ and $\angle E = x + 14$	$x =$	$\angle A =$	$\angle E =$	$\angle C =$

Reference: Grade 9 Learning Module for Junior High School Mathematics