Unit: Angle Relationships
Student Handout 3

Name _____

Date _____Pd_____

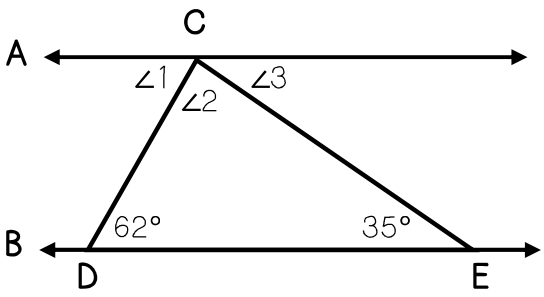
INTERIOR ANGLES OF TRIANGLES

ANGLE SUM

- We know that the _____ of the three _____ angles in any triangle always equals _____.

In 1-2, use what you know about parallel lines cut by a transversal to help you prove that the sum of the interior angles of a triangle is always 180°.

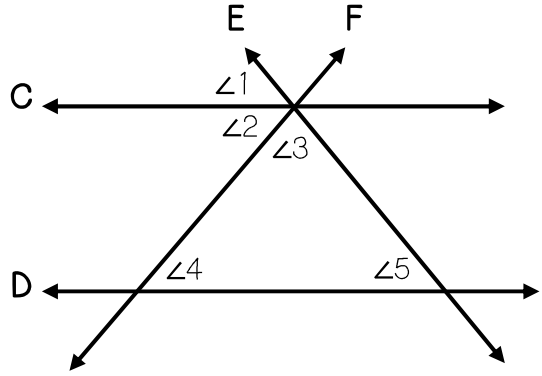
1. Line A is parallel to Line B. Prove that the sum of the interior angles in Triangle CDE is 180°.



I KNOW	EXPLAIN
∠1 = _____	
∠3 = _____	
∠2 = _____	

Conclusion: The sum of the interior angles in a triangle is 180°, because…

2. Line C is parallel to Line D. Lines E and F are transversals.



I KNOW	EXPLAIN
∠1 + ∠2 + ∠3 = _____	
∠2 = _____	
∠1 = _____	

Conclusion: The sum of the interior angles in a triangle is 180° because…

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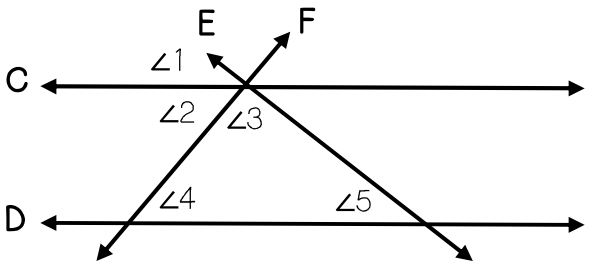
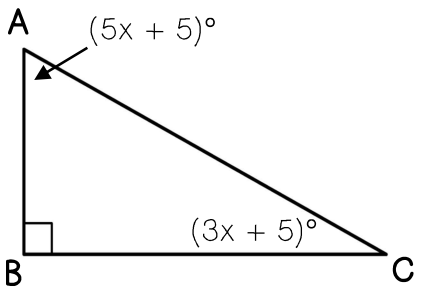
Use what you know about angle relationships to answer #3.

3. Line C is parallel to Line D. What is the measure of ∠5 if ∠2 = 48° and ∠3 = 93°? Explain how you found your answer.



In 4-7, use what you know about the sum of angles in a triangle to set up and solve an equation to find the value of x. Then, find the measure of each missing angle.

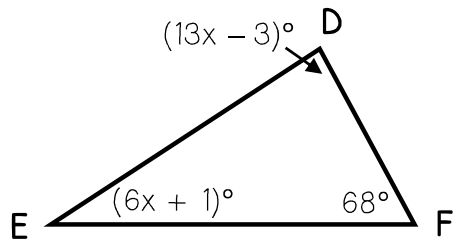
4.



Equation: _____

∠A=_____ ∠B=_____ ∠C= _____

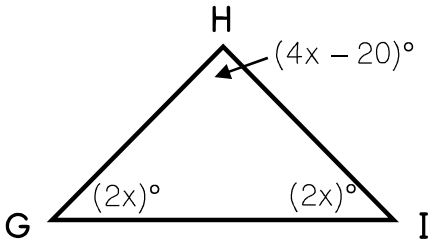
5.



Equation: _____

∠D=_____ ∠E=_____ ∠F= _____

6.



Equation: _____

∠G=_____ ∠H=_____ ∠I= _____

7. In Triangle JKL, ∠K is 3 times the measure of ∠J, and ∠L is 8 times the measure of ∠J. Find the measure of each angle in Triangle JKL.

∠J = _____ ∠K = _____ ∠L = _____

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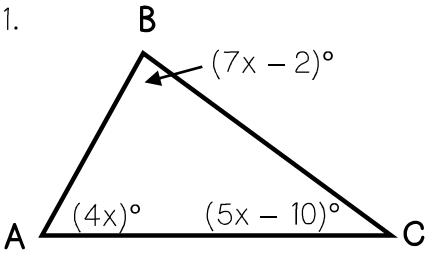
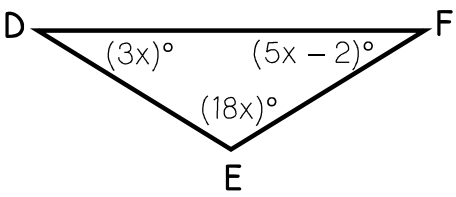
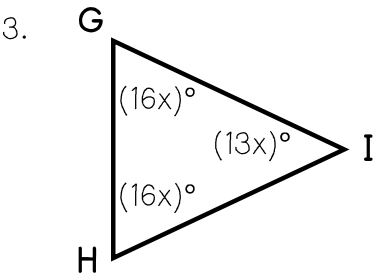
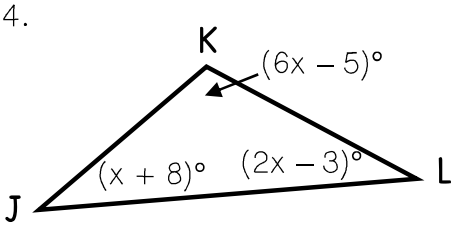
Name _____

Date _____Pd_____

INTERIOR ANGLES OF TRIANGLES

Using each picture or description of a triangle, write and solve an equation in order to find the number of degrees in each angle.

TRIANGLE	EQUATION & WORK	ANGLE MEASURES
1. 	_____	∠A=_____ ∠B=_____ ∠C= _____
2. 	_____	∠D=_____ ∠E=_____ ∠F= _____
3. 	_____	∠G=_____ ∠H=_____ ∠I= _____
4. 	_____	∠J=_____ ∠K=_____ ∠L= _____
5. In Triangle MNO, ∠N is 5 times the measure of ∠M, and ∠O is 4 times the measure of ∠M.	_____	∠M=_____ ∠N=_____ ∠O= _____

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