



Geometry

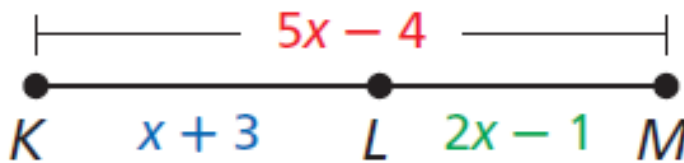
Unit 3—Formal Proofs

Day 15—algebraic proofs

Name: _____

Period: _____

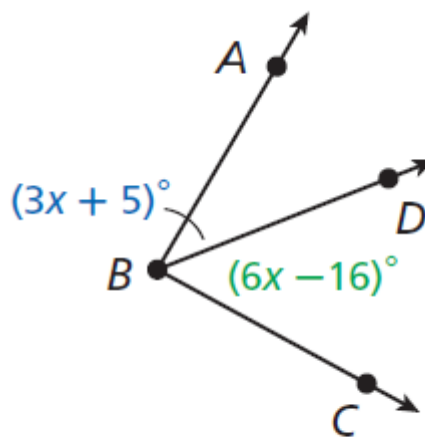
1. Given: the diagram to the right



Prove: state the reason for each step

	Statement	Reasons
Step 1:	$KM = KL + LM$	_____
Step 2:	$5x - 4 = (x + 3) + (2x - 1)$	_____
Step 3:	$5x - 4 = 3x + 2$	_____
Step 4:	$2x - 4 = 2$	_____
Step 5:	$2x = 6$	_____
Step 6:	$x = 3$	_____

2. Given: the diagram to the right



Prove: state the reason for each step

$$m\angle ABC = 8x^\circ$$

	Statement	Reasons
Step 1:	$m\angle ABC = m\angle ABD + m\angle DBC$	_____
Step 2:	$8x^\circ = (3x + 5)^\circ + (6x - 16)^\circ$	_____
Step 3:	$8x = 9x - 11$	_____
Step 4:	$-x = -11$	_____
Step 5:	$x = 11$	_____



Geometry

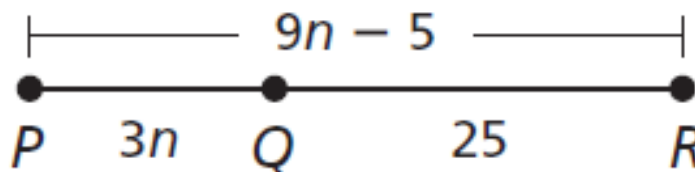
Unit 3—Formal Proofs

Day 15—algebraic proofs

Name: _____

Period: _____

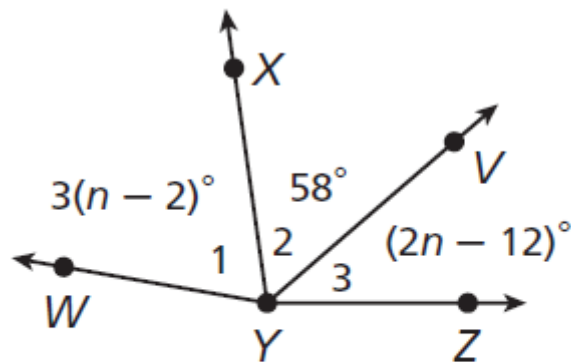
3. Given: the diagram to the right



Prove: solve for n using step by step

	Statement	Reasons
Step 1:	$PR = PQ + QR$	_____
Step 2:		_____
Step 3:		_____
Step 4:		_____
Step 5:		_____
Step 6:		_____

4. Given: the diagram to the right



Prove: solve for n using step by step

$$m\angle WYV = 5n^\circ$$

$$m\angle XYZ = (4n - 6)^\circ$$

	Statement	Reasons
Step 1:	$m\angle WYV = m\angle 1 + m\angle 2$	_____
Step 2:		_____
Step 3:		_____
Step 4:		_____
Step 5:		_____