Geometry: Unit 6 Review Name \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

1. **Use the figure at the right to answer the questions below.**
	1. Name the ***alternate interior angles for L3 and L4***  **3 4 L3**

**1 2 7 8**

* + 1. using L1 as a transversal  **5 6**

 **9 10**

* + 1. using L2 as a transversal  **13 14 11 12 L4**

 **15 16**

 **L1**

* 1. Name the ***corresponding angles*** **L2**
		1. for L1 and L2 using L3 as a transversal
		2. for L3 and L4 using L2 as a transversal
	2. Name the ***same-side interior angles***
		1. for L1 and L2 using L3 as a transversal
		2. for L1 and L2 using L4 as a transversal
	3. Name all pairs of ***vertical angles***
	4. In #s 1-4 above, which pairs of angles are congruent?
	5. If ∠1 ≅ ∠9, which pair of lines are parallel? Why?
	6. If ∠6 ≅ ∠3, which pair of lines are parallel? Why?
	7. If ∠5 ≅ ∠4, which pair of lines are parallel? Why?

# True or False

* 1. Alternate interior angles are always congruent. \_\_\_\_\_\_\_\_\_\_\_\_\_
	2. Corresponding angles are congruent. \_\_\_\_\_\_\_\_\_\_\_\_\_
	3. If 2 lines are parallel, then same-side interior angles are congruent. \_\_\_\_\_\_\_\_\_\_\_\_\_
1. **L1 ⎢⎢ L2 and L3 ⎢⎢ L4; m∠2 = 72. Find the measures of all the other angles.**

**L4**

**L3**

**9**

**6**

**3**

**1**

**L1**

**19**

**17**

**12**

**4**

**15**

**8**

**5**

**L2**

**2**

**18**

**16**

**13**

**11**

1. **Use the above figure to find the value of *x* and the measure of each angle.**
	1. m∠1 = 3*x* – 10 2. m∠2 = *x* + 27 3. m∠3 = 910 – 3*x*

m∠5 = *x* + 70 m∠4 = 2*x* – 36 m∠5 = *x* – 90

* 1. m∠16 = 8*x* – 80 5. m∠12 = *x* + 72

m∠15 = -2*x* + 116 m∠3 = -16*x* + 171

# Proofs

 **3 6 2 L1**

* 1. **7**  **5** **Given:** L1 // L2

 L3 // L4

  **1 4** **L2** **Prove:** ∠ 1 ≅ ∠3

  **8**

 **L3 L4**

* 1. **6 1** **Given:** ∠ 1 ≅ ∠ 4

 **K**  **3** **F** **Prove:** FK // HG

  **2**

 **G 4 5 H**

 **t**

3.  **1**  **L** **Given:** L // M

 **2** ∠1 ≅ ∠4
 **4** **Show:** ∠3 ≅ ∠4

 **3 M**

  **t**

  **t**

4.  **1**  **L1** **Given:** L1 // L2

 L2 // L3

  **Show:** ∠ 1 ≅ ∠4

 **2**

  **3 L2**

 **4 L3**

A

B

C

D

E

5. . Given: AC = BC and 

 Prove: 

**Part VI: Parallelograms**

A B

1. given ABCD with AE= 2x + 9,

 E BE= y + 12, CE= 19, DE= 20

 Find x and y. What property?

D C

1. Use picture in #1. AB= 6x + 40, DC= x- 120. Find x
2. Use picture in #1. AB= 2x + 3y, BC= 3x + 2y, DC=26, AD=24. Find x and y
3. CAD= 3x + 12, M ACB= 5x – 12. Find x

5. AB= 3x + 5 DC= 5x-20

 a) Find x b) What properties of parallelograms did you use?

6. AE= 3x + y EC= 12 DE= 2x – 3y BE=21

a) Find x & y b) What properties of parallelograms did you use? 

1. J Given: EFIH, EGJH

 H I Prove: JIFG is

 G

 E F

 B A Given: ABCD; ; 

 H Prove: 

 G

 C D