Name

Class

Date

Proving Lines Parallel

**Which lines or segments are parallel? Justify your answer.**

**1. 2. 3.**

**4. 5. 6.**



 **7. Developing Proof** Complete the flow proof below.

 **Given:** ∠1 and ∠2 are supplementary; *x* ║ *y*

**Prove:** *q* ║ *r*





**8.** The art club is designing a new flag for the marching band. In the diagram, *m*∠1 = 45, *m*∠2 = 45, and
*m*∠3 = 145. Does the flag contain three parallel lines? Explain.

**Algebra Determine the value of *x* for which *r*** ║ ***s.* Then find the measure of each labeled angle.**

**9. 10. 11.**

**12. 13. 14.**

**Developing Proof Use the given information to determine which lines, if any, are parallel. Justify each conclusion with a theorem or postulate.**

**15.** ∠11 is supplementary to ∠10. **16.** ∠6 ≅ ∠9

**17.** ∠13 is supplementary to ∠14. **18.** ∠13 ≅ ∠15

**19.** ∠12 is supplementary to ∠3. **20.** ∠2 ≅ ∠13



**Algebra Determine the value of *x* for which *j*** ║ ***k.* Then find *m∠*1 and *m***∠**2.**

**21.** *m*∠1 = 7*x* + 14, *m*∠2 = 2*x* + 4

**22.** *m*∠1 = 4*x* − 5, *m*∠2 = *x* + 20