Equipment Room

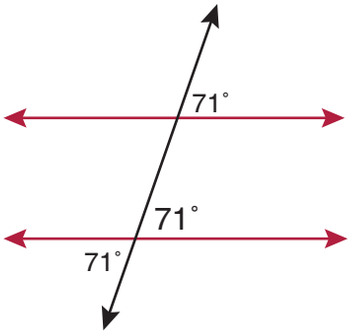
Coach's Corner Solutions

Unit 4: Geometry Lesson 4.1

Coach's Corner – I

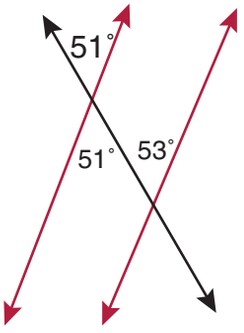
1. Are the highlighted lines in the following diagrams parallel? Explain how you know.

a.



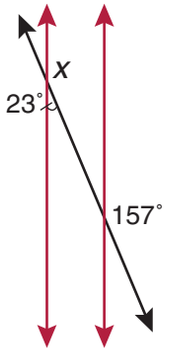
Since the given angles are alternate exterior angles and they are equal in measure, the lines must be parallel.

b.



Since the given angles are alternate interior angles and they are not equal in measure, the lines cannot be parallel.

c.



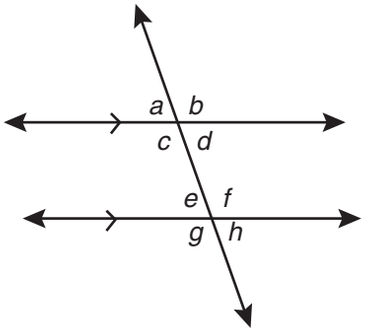
Angle x and 23° lie on a straight line, so

$23° + x = 180°$

$x = 157°$

Corresponding angles are equal, so the lines are parallel.

2. Prove that alternate interior angles *c* and *f* are equal.



Proofs may vary. A sample is shown.

Statement	Justification
$\angle b = \angle f$	*b* and *f* are corresponding angles
$\angle b = \angle c$	*b* and *c* are opposite angles
$\angle c = \angle f$	both *c* and *f* are equal to *b* and so must be equal to each other

Please return to *Unit 4: Geometry Lesson 4.1* and continue your training.