Parallel Line Properties   Name _____

Identify each pair of angles as corresponding, alternate interior, alternate exterior, or consecutive interior.
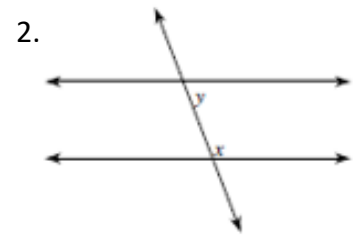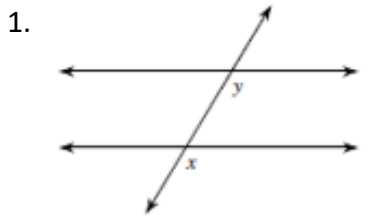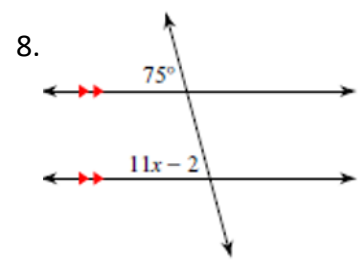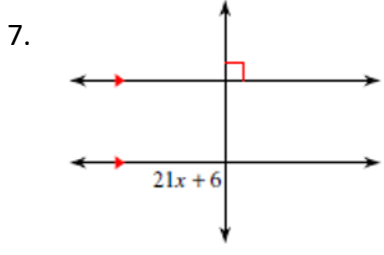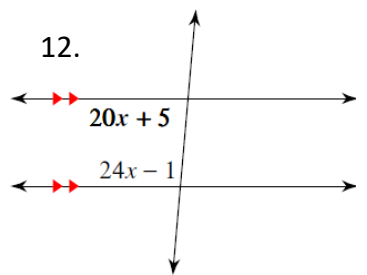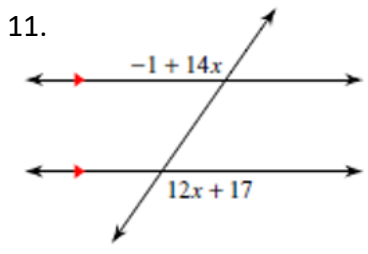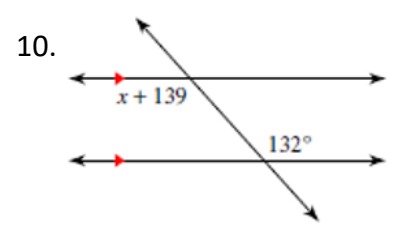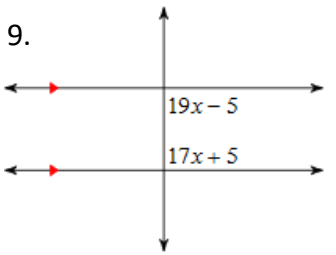
1.

2.

3.

4.

5.

6.

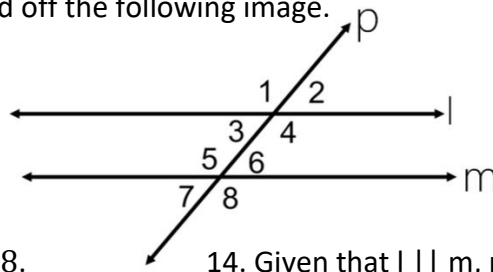
Solve for x.

7.

$21x + 6$

8.

$75°$

$11x - 2$

Solve for x.

9.

$19x - 5$

$17x + 5$

10.

$x + 139$

$132°$

11.

$-1 + 14x$

$12x + 17$

12.

$20x + 5$

$24x - 1$
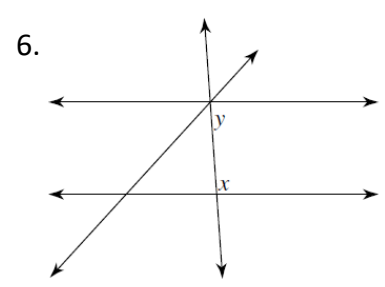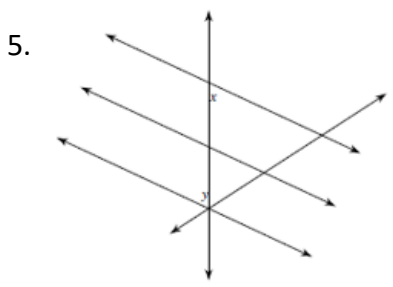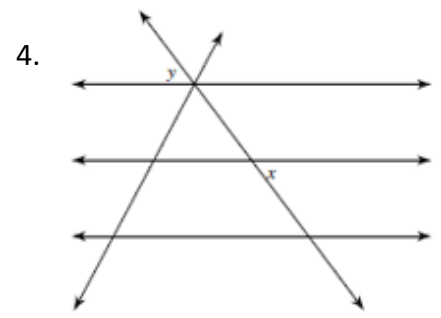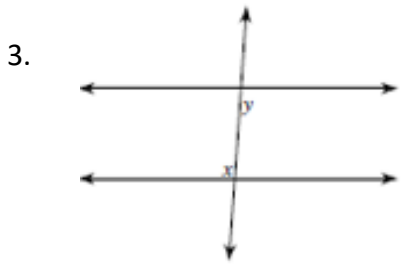
Complete the following proofs based off the following image.

13. Given that l || m, prove ∠1 ≅ ∠8.

Statement	Reason
l || m	_____
_____	Corresponding ∠'s Postulate
∠5 ≅ ∠8	_____
_____	Transitive Property

14. Given that l || m, prove ∠1 and ∠7 are supplementary.

Statement	Reason
_____	Given
∠1 ≅ ∠5	_____
_____	Definition of Congruence
∠5 and ∠7 are linear pairs	_____
m∠5+m∠7=180°	Linear pairs are supplementary
_____	Substitution
∠1 and ∠7 are supplementary	_____

Write the following proofs.

15. Given that l || m, prove ∠4 and ∠6 are supplementary

16. Given that l || m, prove ∠3 ≅ ∠6.