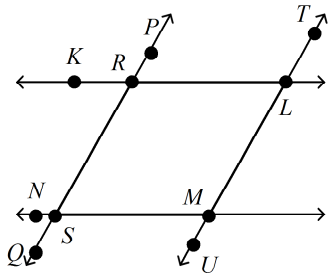## Geometry Unit 2 Practice Test
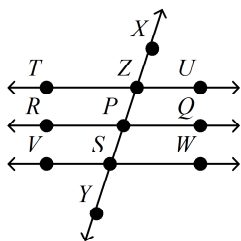
Multiple Choice
Identify the choice that best completes the statement or answers the question.

1. In the figure, $m\angle NML = 120$, $\overleftrightarrow{PQ} \parallel \overleftrightarrow{TU}$ and $\overleftrightarrow{KL} \parallel \overleftrightarrow{NM}$. Find the measure of angle *PRK*.
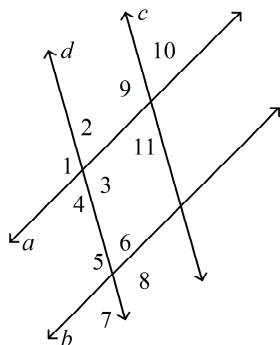

    a.   120   c.   100
    b.   60   d.   40

2. In the figure, $m\angle RPZ = 95$ and $\overleftrightarrow{TU} \parallel \overleftrightarrow{RQ} \parallel \overleftrightarrow{VW}$. Find the measure of angle *WSP*.

    a.   85   c.   95
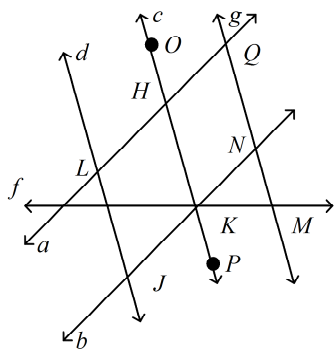   b.   75   d.   65

Given the following information, determine which lines, if any, are parallel. State the postulate or theorem that justifies your answer.

3. $\angle 2 \cong \angle 6$

a. $a \parallel b$; congruent corresponding angles
b. $a \parallel b$; congruent alternate exterior angles
c. $c \parallel d$; congruent corresponding angles
d. $c \parallel d$; congruent alternate exterior angles

4. $\angle JKH \cong \angle KNQ$

a. $a \parallel b$; congruent alternate interior angles
b. $c \parallel g$; congruent corresponding angles
c. $a \parallel b$; congruent corresponding angles
d. $c \parallel g$; congruent alternate interior angles

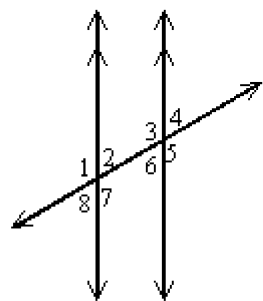*Identify the pair of angles as alternate interior, alternate exterior, consecutive interior, or vertical.*
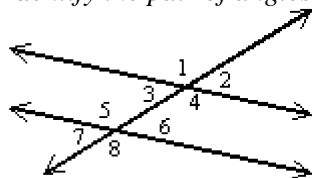
5. $\angle 3$ and $\angle 5$
   a.   alternate interior   c.   consecutive interior
   b.   alternate exterior   d.   vertical

6. Given $\overleftrightarrow{AB} \parallel \overleftrightarrow{CD}$ and $m\angle 5 = 89$. Find the measure of $\angle 3$.
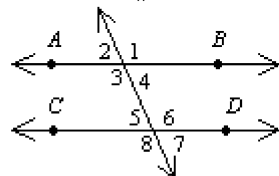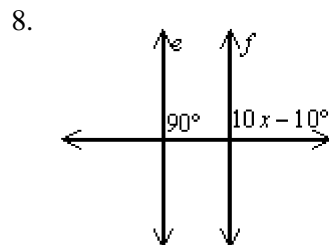

   a. $101\,°$ c. $91\,°$
   b. $89\,°$ d. $99\,°$

7. If $m\angle 1 = 6x + 46$ and $m\angle 5 = 7x + 37$, find x, $m\angle 1$, and $m\angle 5$.
   a. $x = 4$, $m\angle 1 = 70$, $m\angle 5 = 65$ c. $x = 9$, $m\angle 1 = 100$, $m\angle 5 = 100$
   b. $x = 9$, $m\angle 1 = 9$, $m\angle 5 = 26$ d. $x = 4$, $m\angle 1 = 70$, $m\angle 5 = 70$

Find x so that $e \parallel f$.

8.

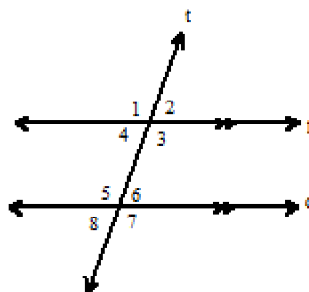   a.   90   c.   8
   b.   10   d.   110

For # 9-10 use the following:
Given: $p \parallel q$
Prove: $\angle 1$ and $\angle 6$ are supplementary

Statements	Reasons
$p \parallel q$	Given
9.	Consecutive Interior Angles Theorem
$m\angle 3 + m\angle 6 = 180$	Definition of Supplementary Angles
$\angle 1 \cong \angle 3$	**10.**
$m\angle 1 = m\angle 3$	Definition of Congruence
$m\angle 1 + m\angle 6 = 180$	Substitution
$\angle 1$ and $\angle 6$ are supplementary	Definition of Supplementary Angles

9. Choose one of the following to complete the proof.

   a. $\angle 4$ and $\angle 1$ are supplementary   c. $\angle 3$ and $\angle 6$ are supplementary

   b. $\angle 7$ and $\angle 8$ are supplementary   d. $\angle 1$ and $\angle 2$ are supplementary

10. Choose one of the following to complete the proof.

   a. Alternate Interior Angles Theorem – If two angles are alternate interior, then they have congruent angle measures

   c. Vertical Angle Theorem- If two angles are vertical angles, then they have congruent angle measures

   b. Alternate Exterior Angles Theorem – If two angles are alternate exterior, then they have congruent angle measures

   d. Corresponding Angles Theorem – If two angles are corresponding, then they have congruent angle measures

Short Answer
Choose 6 of the following 8 problems to complete. _If you choose to complete all 8 two will be considered for bonus points._

11. Joseph draws two lines intersected by a transversal as shown below. He makes sure that angles 1 and 2 are equal. How will this ensure that lines *a* and *b* are parallel? *(Hint: What is the angle relationship?)*
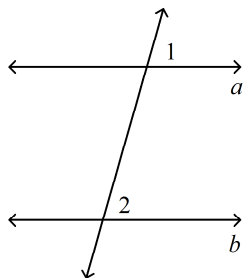
Identify the pair of angles as alternate interior, alternate exterior, consecutive interior, or vertical.
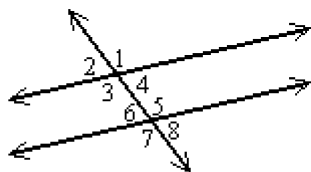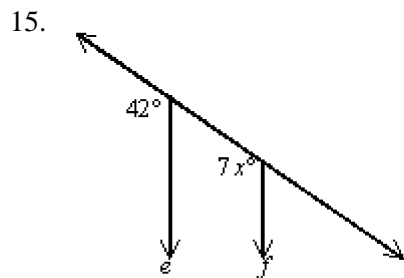

12. ∠6 and ∠4

13. In the figure, $l \parallel m$ and $j \parallel k$. Name all angles congruent to ∠14.
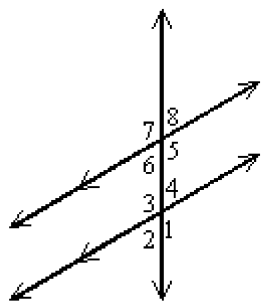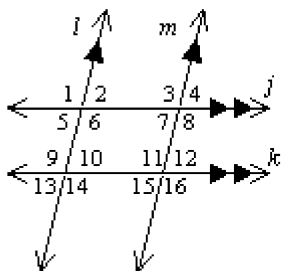
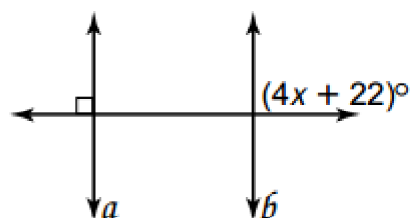
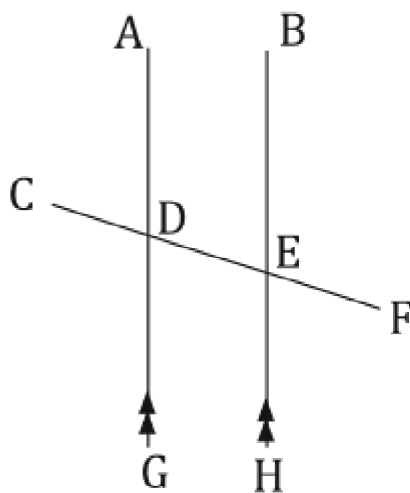14. If $m\angle 4 = 3x$ and $m\angle 5 = 6x - 180$, find x, $m\angle 4$, and $m\angle 5$.

Find x so that e ‖ f.

15.

16. **Find x so that a ‖ b.**

$(4x + 22)°$

m∠ADF=2X+4°, m∠HEC=4X-14°. Find
m∠HEC.

17.

Complete the Algebraic Proof.

$6x - 12 = 24$	

18.