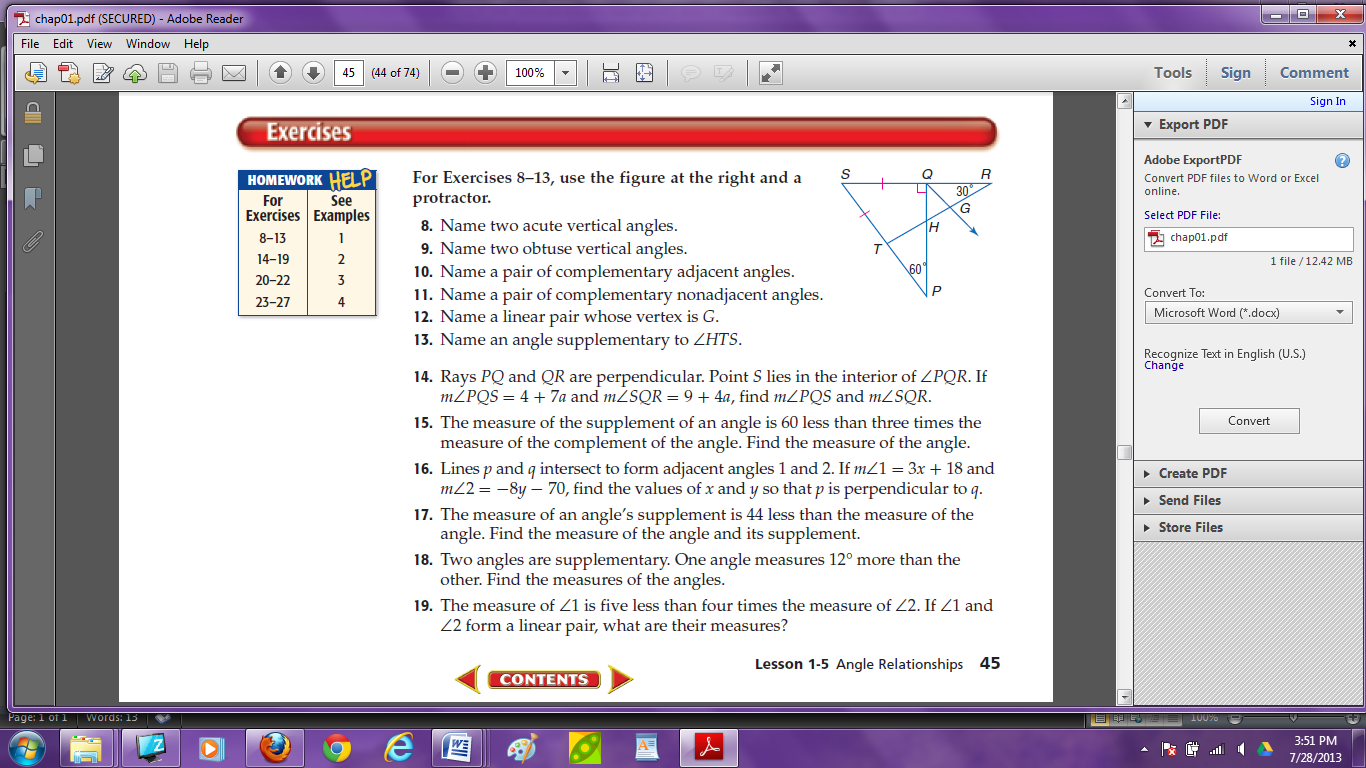
**Angle Relationships** Name\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Day 1: Angle Pairs – Vertical, Adjacent & Linear Pairs**

Worksheet

Use the figure on the right to answer #1-5



1. Name two acute vertical angles

2. Name two obtuse vertical angles

3. Name a pair of adjacent angles

4. Name a linear pair whose vertex is G

5. Name a pair of nonadjacent angles

6. The measure of ∠1 is five less than four times the measure of ∠2. If ∠1 and ∠2 form a linear

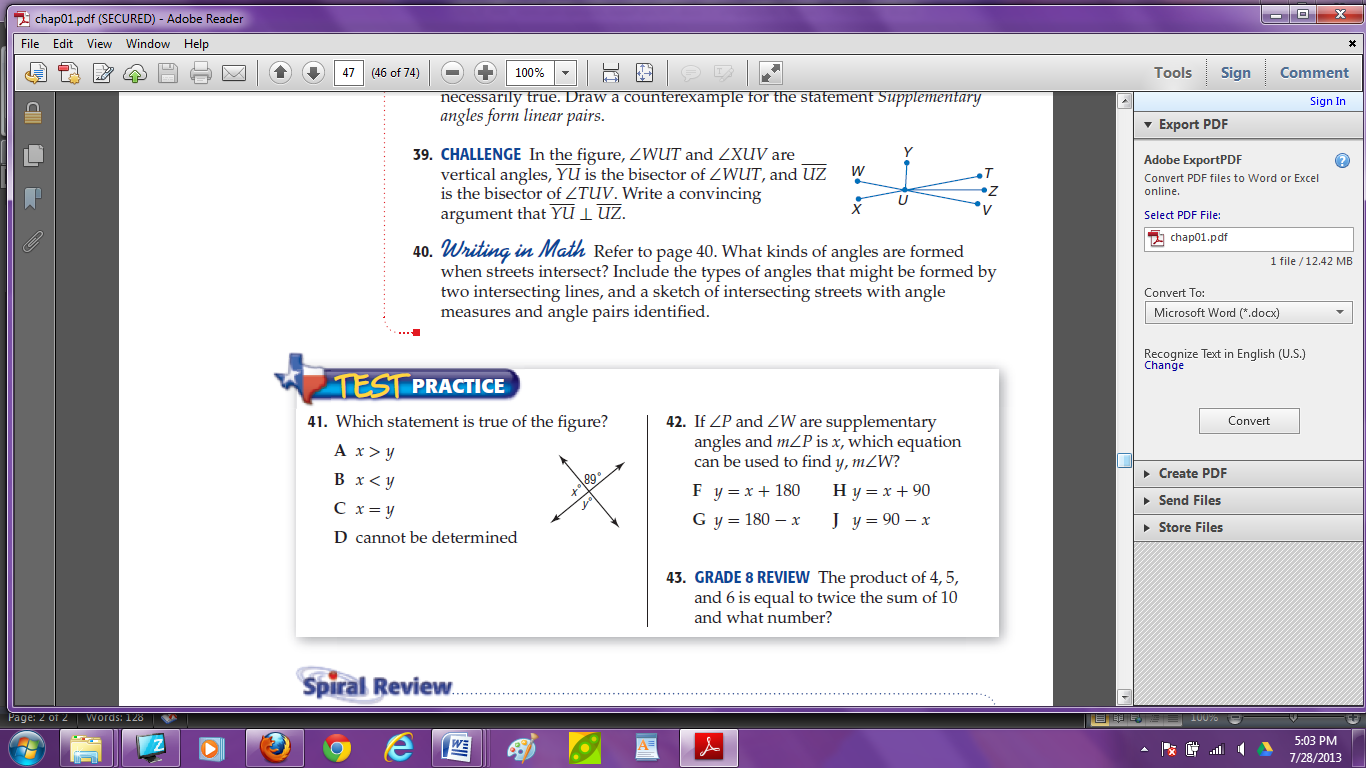
pair what are their measures? Show all work.

m∠1 = \_\_\_\_\_\_\_\_

m∠2 = \_\_\_\_\_\_\_\_

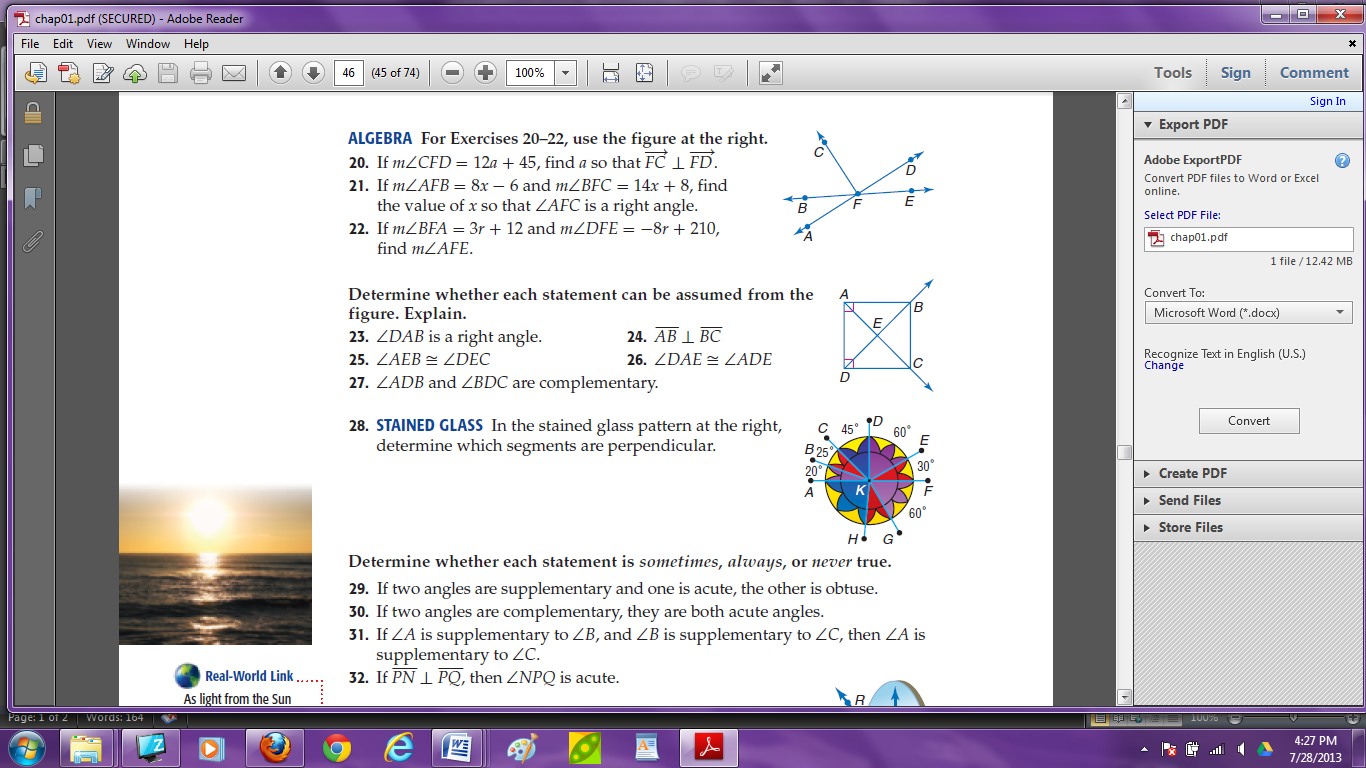
7. Determine whether the statements true or false. Explain.

1. x > y true/false



1. x < y true/false
2. x = y true/false

Use the figure on the right to answer #8-9



8. If m∠AFB = 8*x* – 6 and m∠BFC = 14*x* + 8, find the value of *x*

so that ∠AFC is a right angle. Show all work.

x = \_\_\_\_\_\_\_\_

9. If m∠BFA = 3*r* + 12 and m∠DFE = -8*r* + 210, find m∠AFE. Show all work.

m∠AFE = \_\_\_\_\_\_\_\_

10. Are all linear pairs adjacent? Explain. Use a diagram in your explanation.

11. Are all adjacent angles linear pairs? Explain. Use a diagram in your explanation.

12. Can vertical angles be adjacent? Explain. Use a diagram in your explanation.

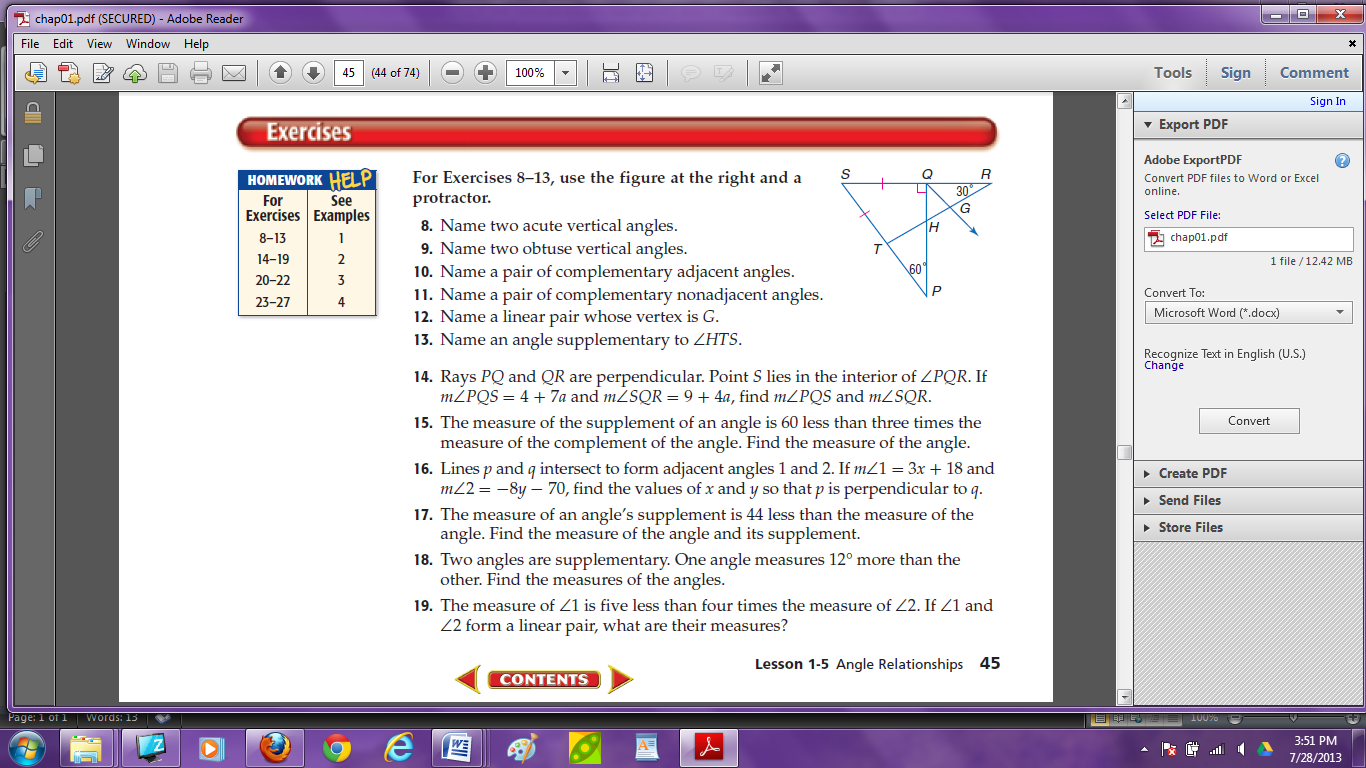
**Angle Relationships** Name\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_



# Day 2: Angle Pairs – Complementary & Supplementary Angles

Worksheet

Use the figure on the right to answer #1-5



1. Name two segments that are perpendicular

2. Name a pair of complementary adjacent angles

3. Name a right angle

4. Name an angle complementary to ∠RQG

5. Name an angle supplementary to ∠HTS

6. Rays PQ and QR are perpendicular. Point S lies in the interior of ∠PQR. If m∠PQS = 4 + 7*a*

and m∠SQR = 9 + 4*a*, find m∠PQS and m∠SQR. Draw and label the diagram.

m∠PQS = \_\_\_\_\_\_\_\_

m∠SQR = \_\_\_\_\_\_\_\_

7. The measure of the supplement of an angle is 60 less than three times the measure of

the complement of the angle. Find the measure of the angle. Draw and label the diagram.

8. Lines *p* and *q* intersect to form adjacent angles ∠1 and ∠2. If m∠1 = 3*x* + 18 and

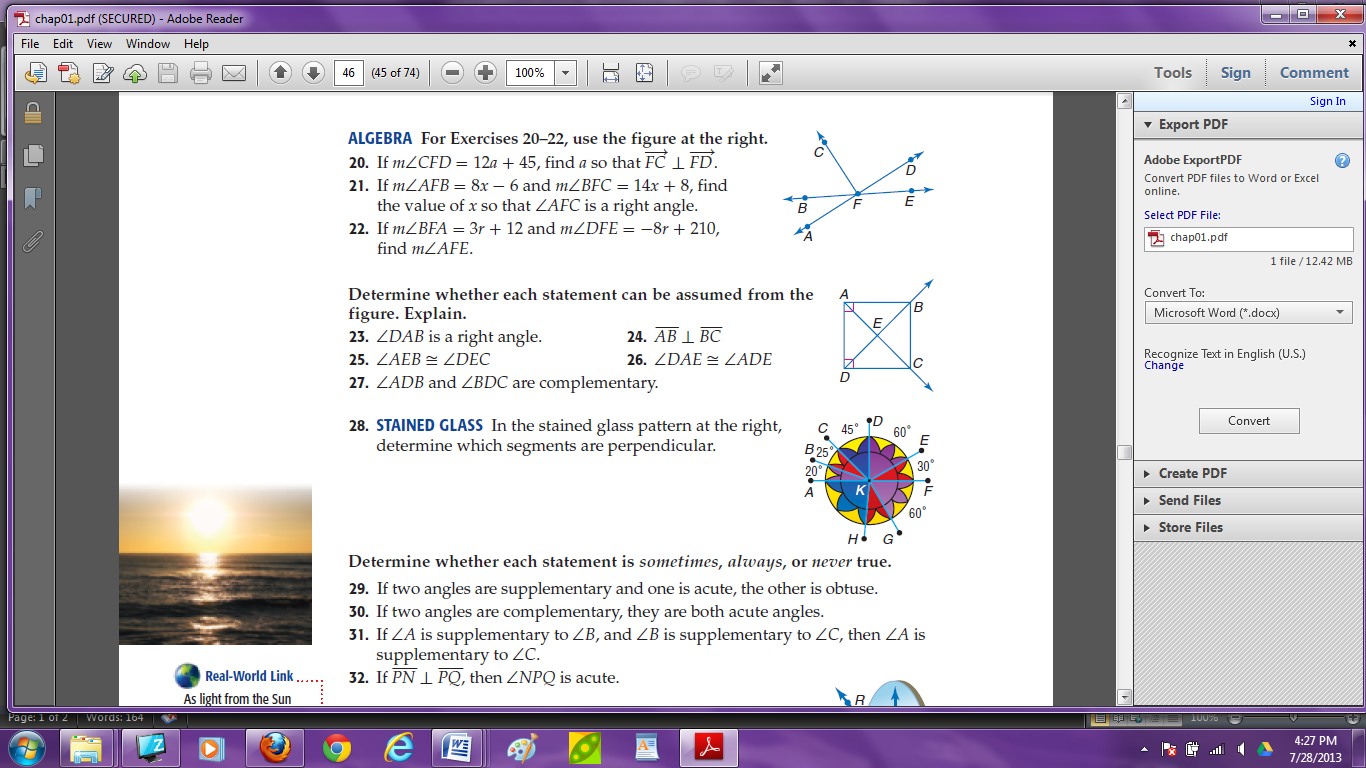
m∠2 = -8*y* – 70, find the values of *x* and *y* so that *p* is perpendicular to *q*. Draw and

label the diagram.

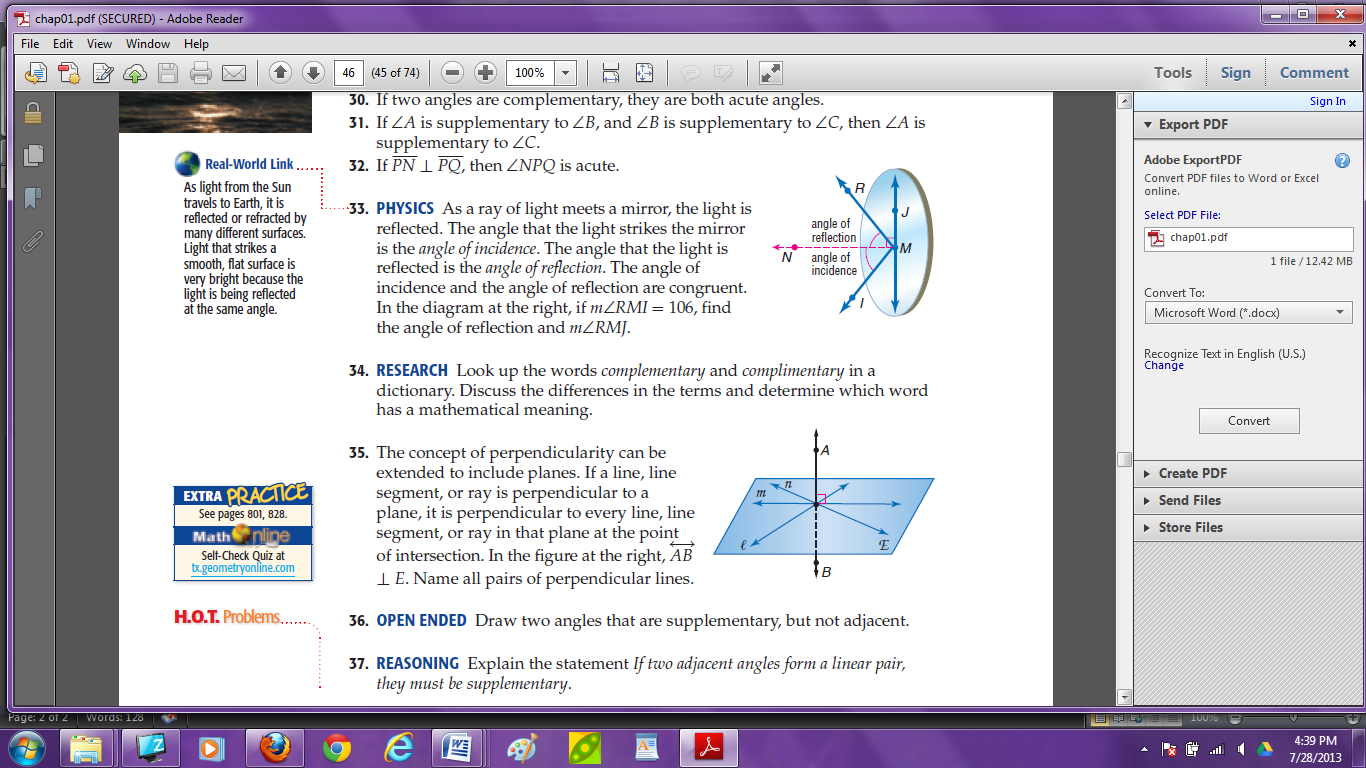
x = \_\_\_\_\_\_\_\_

y = \_\_\_\_\_\_\_\_

9. If m∠CFD = 12*a* + 45, find *a* so that FC ⊥ FD



a = \_\_\_\_\_\_\_\_



10. As a ray of light meets a mirror, the light is reflected. The angle created

when the light strikes the mirror is called the *angle of incidence*. The angle

created when the light is reflected is called the *angle of reflection*.

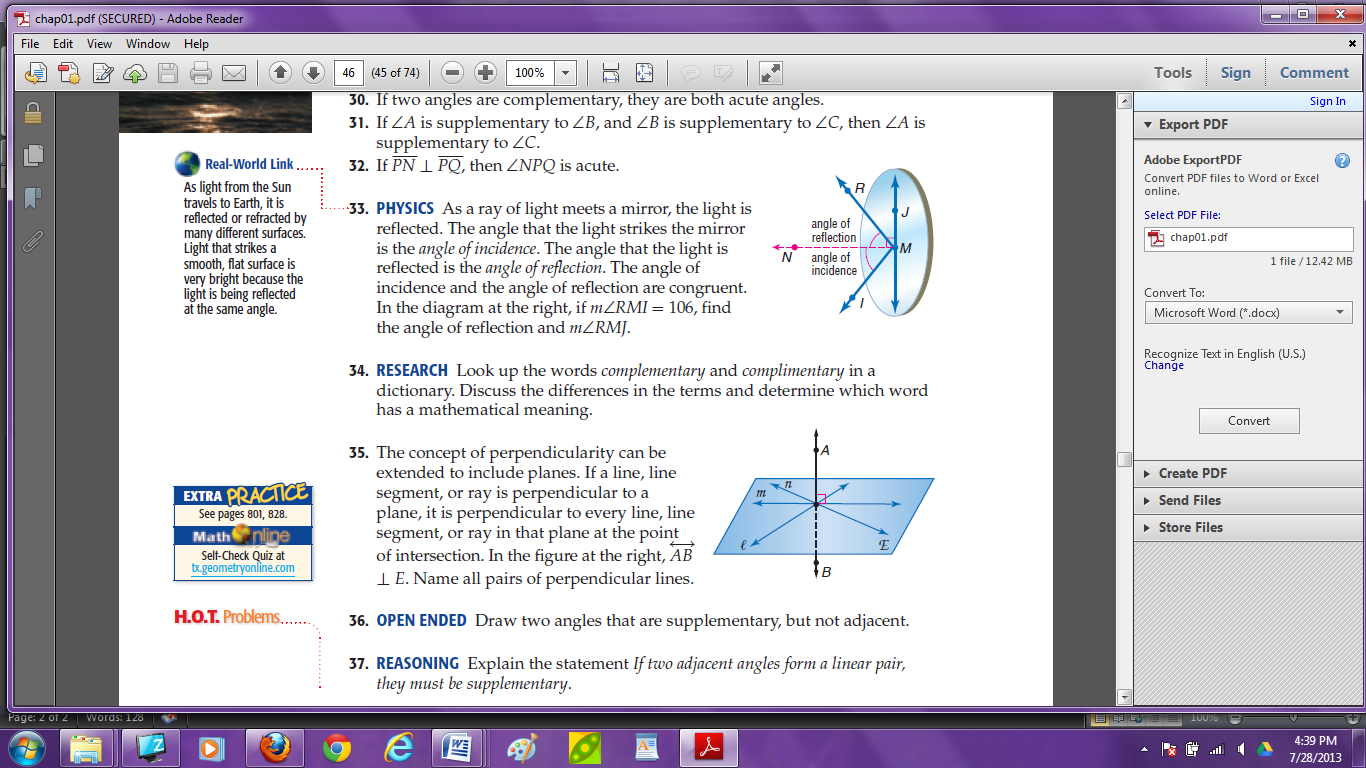
The angle of incidence and the angle of reflection are congruent.

If m∠RMI = 106, find the angle of reflection and m∠RMJ.

Angle of Reflection = \_\_\_\_\_\_\_

m∠RMJ = \_\_\_\_\_\_\_\_

11. The concept of perpendicularity can be extended to include planes. If a line,



line segment, or ray is perpendicular to a plane, it is perpendicular to every

line, line segment, or ray in that plane at the point of intersection.

If AB ⊥ E, name all pairs of perpendicular line in the diagram

12. Explain how supplementary angles and linear pairs are similar

13. Explain how supplementary angles and linear pairs are different

