Lesson 7.2

Complementary and Supplementary Angles

Feb 22-8:33 AM

Essential Question

How can you classify two angles as complementary or supplementary?

Essential Question

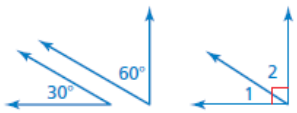
Key Ideas

7.2 Notes
Get out your spiral notebook and protractor too!

Complementary Angles

Words Two angles are **complementary angles** when the sum of their measures is 90°.

Examples



∠1 and ∠2 are complementary angles.

90°

complementary

Supplementary Angles

Words Two angles are **supplementary angles** when the sum of their measures is 180°.

180°

supplementary

Examples

∠3 and ∠4 are supplementary angles.

C + C = S
90° + 90° = 180°

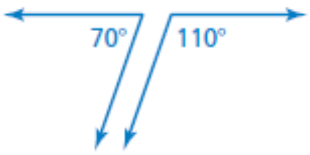
Giving a *compliment* is the *right* thing to do.

Key Idea

Example 1:

Tell whether the angles arecomplementary, supplementary, or neither.

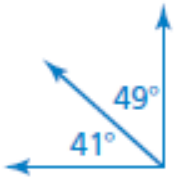
a.



70° + 110°
180°

Supplementary

b.



41° + 49°
90°

Complementary

c.

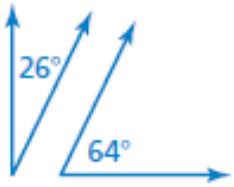
128° + 62°
190°

Neither

Example 1

Tell whether the angles are *complementary*, *supplementary*, or *neither*.

1.

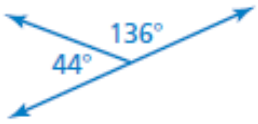


$26° + 64°$

$90°$

Complementary

2.

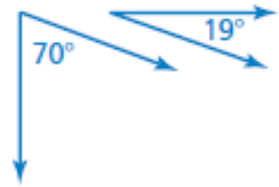


$44° + 136°$

$180°$

Supplementary

3.



$70° + 19°$

$89°$

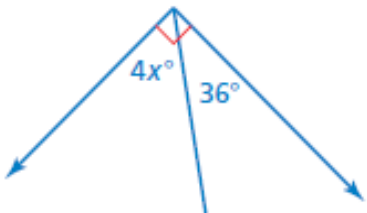
Neither

On your own 1-3

Example 2:

Tell whether the angles are *complementary* or *supplementary*. Then find the value of *x*.

a



Complementary

$4x + 36° = 90°$

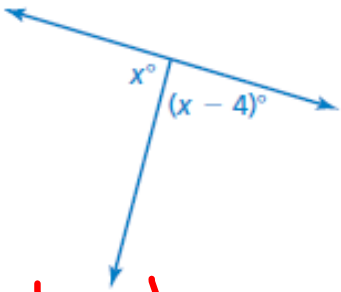
$-36° \quad -36°$

$4x = 54°$

$\div 4 \quad \div 4$

$x = 13.5°$

b.



Supplementary

$x + x - 4 = 180°$

$+4 \quad +4$

$x + x = 184°$

$2x = 184°$

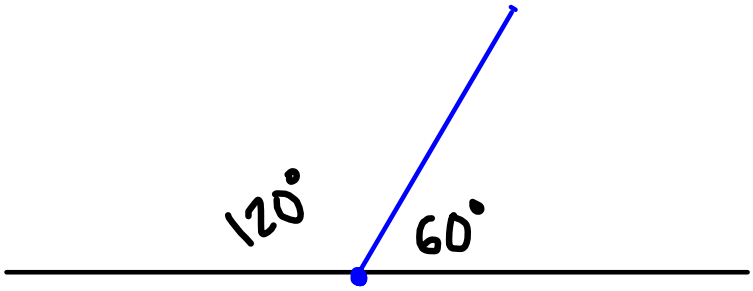
$\div 2 \quad \div 2$

$x = 92°$

Example 2

Example 3:

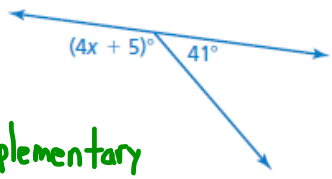
Draw a pair of adjacent supplementary angles so that one angle has a measure of 60°.



Example 3

Tell whether the angles are *complementary* or *supplementary*. Then find the value of *x*.

4.



Supplementary

$4x° + 5° + 41° = 180°$

$4x° + 46° = 180°$

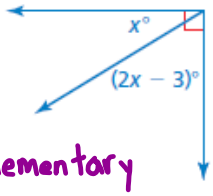
$-46° \quad -46°$

$4x° = 134°$

$\div 4 \quad \div 4$

$x° = 33.5°$

5.



Complementary

$x° + 2x° - 3° = 90°$

$3x° - 3° = 90°$

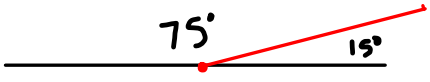
$+3° \quad +3°$

$3x° = 93°$

$\div 3 \quad \div 3$

$x° = 31°$

6. Draw a pair of adjacent supplementary angles so that one angle has a measure of 15°.



On your own 4-6

True or False?

1. Supplementary angles could both be acute. F

2. Supplementary angles could be congruent. T

3. Complementary angles sum to 180°. F

4. Complementary angles could be obtuse. F

5. Every angle has a complement and a supplement. F

Closure