

**2.4 warm-up**

Friday, September 2, 2016 8:00 AM

A large area of blue horizontal lines for writing, with a vertical red margin line on the left side.

**Section 2.2 Complementary and Supplementary Word Problems WARM-UP**

**2 Lies and a 1 Truth** – In each question below, two of the choices are false and one of them is true. Circle the true statement.

1) The complement of the supplement of an angle.

a)  $180 - 90 - x$

b)  $90 - 180 - x$

c)  $90 - (180 - x)$

2) The supplement of the complement of an angle.

a)  $180 - 90 - x$

b)  $180 - (90 - x)$

c)  $90 - (180 - x)$

3) Four times the complement of an angle is  $54^\circ$  more than the supplement of the angle.

a)  $4x = 54 + 180 - x$

b)  $4(90 - x) = 54 + 180 - x$

c)  $4(90 - x) + 54 = 180 - x$

4) The measure of angle added to twice its supplement is 5 less than 20 times its complement.

a)  $x + 2(180 - x) = 20(90 - x) - 5$

b)  $x + 2(180 - x) = 5 - 20(90 - x)$

c)  $x + 2(180 - x) - 5 = 20(90 - x)$

5) The ratio of an angle's complement to its supplement is  $\frac{1}{3}$ .

a)  $90 - x = 180 - x$

b)  $90 - x + 3x = 180$

c)  $3(90 - x) = (180 - x)$

~~$\frac{90-x}{180-x} = \frac{1}{3}$~~   
 $3(90-x) = 180-x$

6) Two times an angle plus its complement is 44 less than its supplement.

a)  $2x + 90 - x = 44 - (180 - x)$

b)  $2x + 90 - x = 180 - x - 44$

c)  $2x + 90 - x = 44 - 180$

$\frac{2}{3} \cdot \frac{1}{2} = \frac{2}{6}$

7) The sum of angle, its complement, and its supplement is 232.

a)  $x + 90 - x + 180 - x = 232$

b)  $x + 90 - x + 180 = 232$

c)  $90 - x + 180 - x = 232$

8) The difference between an angle's supplement and twice its complement is 68.

a)  $(180 - x) - 2x = 68$

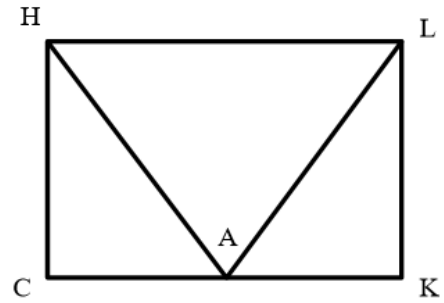
b)  $2(90 - x) - (180 - x) = 68$

c)  $(180 - x) - 2(90 - x) = 68$

Section 2.4

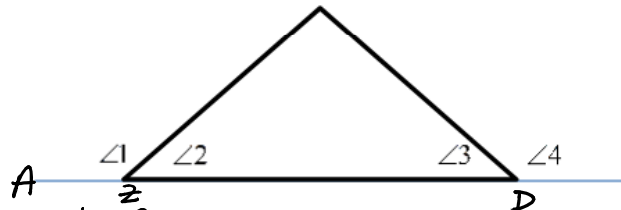
9) Given:  $\angle CHA$  is comp to  $\angle LHA$   
 $\angle CHA$  is comp to  $\angle HLA$

Conclusion:  $\angle LHA \cong \angle HLA$



Statements	Reasons
1. $\angle CHA$ comp $\angle LHA$	1. Given
2. $\angle CHA$ comp $\angle HLA$	2. Given
3. $\angle LHA \cong \angle HLA$	3. If 2 angles are comp to the same angle, then they are $\cong$ .

10) Given:  $\angle 1 \cong \angle 4$   
 Conclusion:  $\angle 2 \cong \angle 3$



Statements	Reasons
1. $\angle 1 \cong \angle 4$	1. Given
2. $\angle AED$ is a st. angle	2. Assumed from diagram
3. $\angle 1$ supp $\angle 2$ $\angle 3$ supp $\angle 4$	3. If 2 angles make a straight angle, then they are supp.
4. $\angle 2 \cong \angle 3$	4. If 2 angles are supp to $\cong$ angles, then they are $\cong$ .