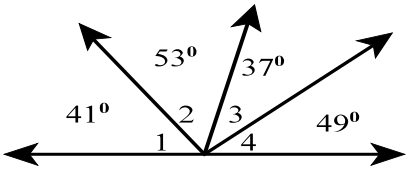
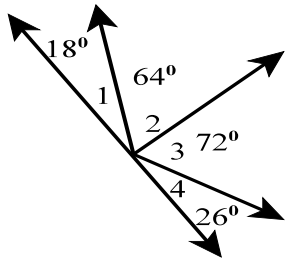
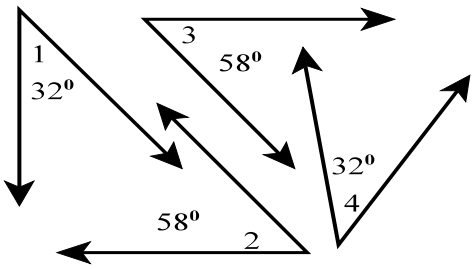
Angle Relationships
Geometry

Identify each pair of complementary angles.

1) 

2) 

3) 

∠**1 &** ∠**4,** ∠**2 &** ∠**3**

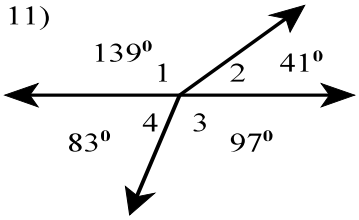
∠**1 &** ∠**3,** ∠**2 &** ∠**4**

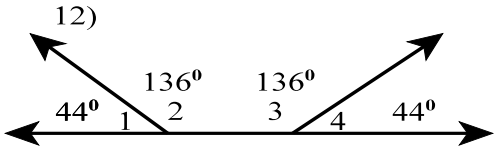
∠**1 &** ∠**2,** ∠**1 &** ∠**3**
∠**4 &** ∠**2,** ∠**4 &** ∠**3**

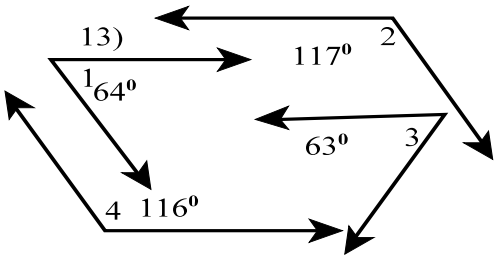
Find the measures of complements of angles with these measures.

4) 51 °	5) 39 °	6) 76 °	7) 54 °	8) 90 °	9) m °	10) x °
90° - 51° = **39°**	90° - 39° = **51°**	90° - 76° = **14°**	90° - 54° = **36°**	**No Comp.**	**90° - m°**	**90° - x°**

Identify each pair of supplementary angles.

11) 

12) 

13) 

∠**1 &** ∠**2,** ∠**3 &** ∠**4**

∠**1 &** ∠**2,** ∠**1 &** ∠**3**
∠**4 &** ∠**2,** ∠**4 &** ∠**3**

∠**1 &** ∠**4,** ∠**2 &** ∠**3**

Find the measures of the supplements of angles with these measures.

14) 17 °	15) 141 °	16) 108 °	17) 55 °	18) 73 °	19) a °	20) k °
180° -17° = **163°**	180° -141° = **39°**	180° -108° = **72°**	180° -55° = **125°**	180° -73° = **107°**	**180°-a°**	**180°-a°**

21) ∠C ≅ ∠D and $m\angle C = 76^0$. Find the measure of the supplement of ∠D.

m∠D = 76°, Supp. = 180° - 76° = **104°**

22) ∠J ≅ ∠K and $m\angle K = 14^0$. Find the measure of the complement of ∠J.

m∠J = 14°, Comp. = 90° - 14° = **76°**

23) ∠T ≅ ∠V and $m\angle V = 76^0$. Find the measures of the complement and supplement of ∠T.

m∠T = 76°, Comp. = 90° - 76° = **14°**

Supp. = 180° - 76° = **104°**

24) ∠Y ≅ ∠Z and $m\angle Y = 33^0$. Find the measures of the complement and supplement of ∠Z.

m∠Z = 33°, Comp. = 90° - 33° = **57°**

Supp. = 180° - 33° = **147°**

25) Two supplementary angles are congruent. What is the measure of each angle?

x + x = 180°

2x = 180°

x = 90° **Each angle measures 90°**

26) An angle is 20^0 greater than its' complement. What is the measure of the angles?

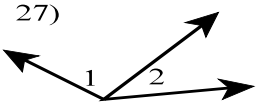
Complement = x, Angle = x + 20

x + x + 20 = 90°

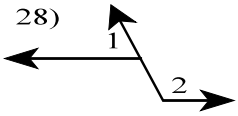
2x + 20 = 90° **x = 35°**

x + 20° = 55°

Are the angles in each problem adjacent angles? If not, why not?

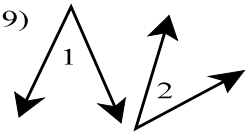
27) 

YES

28) 

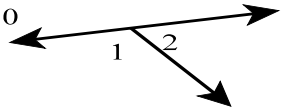
NO

No common vertex

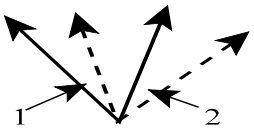
29) 

NO

No common side

30 

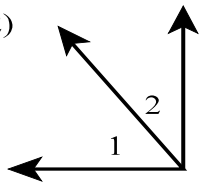
YES

31) 

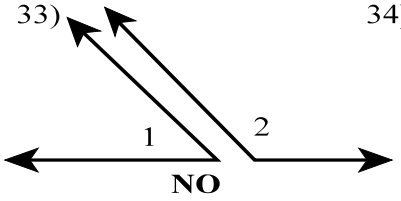
NO

Overlapping

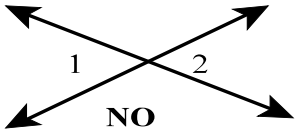
Tell whether ∠1 and ∠2 form a linear pair.

32) 

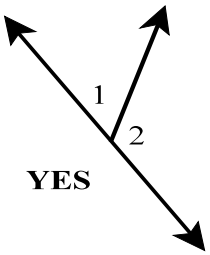
NO

33) 

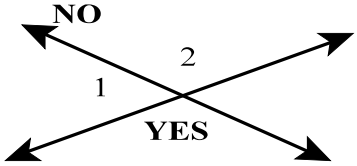
NO

34) 

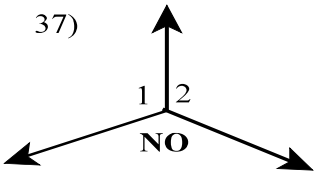
NO

35) 

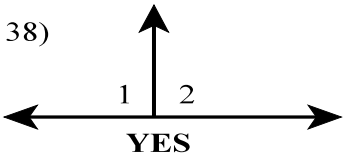
YES

36) 

YES

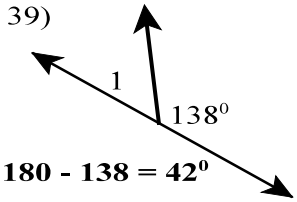
37) 

NO

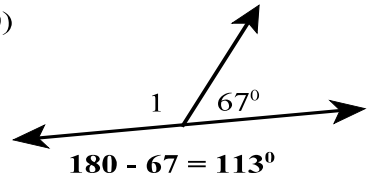
38) 

YES

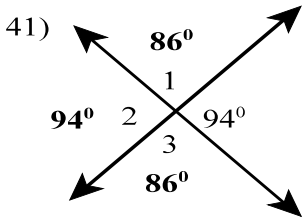
Given the measure of one angle, find the measures of the other angles at the intersection.

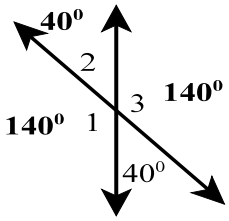
39) 

180 - 138 = 42⁰

40) 

180 - 67 = 113⁰

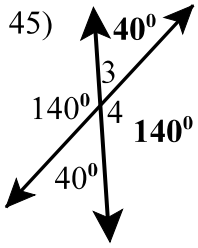
41) 

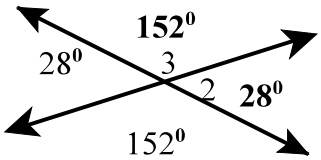
42) 

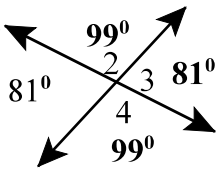
43) ∠A and ∠B form a linear pair. $m\angle A = 71^0$. Find the $m\angle B$. ***m* ∠B = 180° - 71° = 109°.**

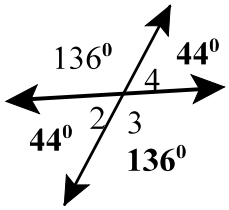
44) ∠P and ∠R form a linear pair. $m\angle R = 153^0$. Find the $m\angle P$. ***m* ∠P = 180° - 153° = 27°.**

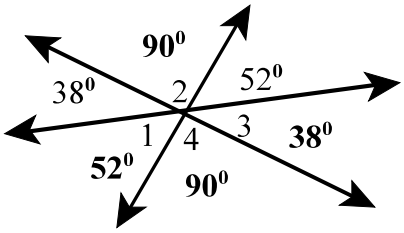
Find the measures of the angles whose measures are not shown

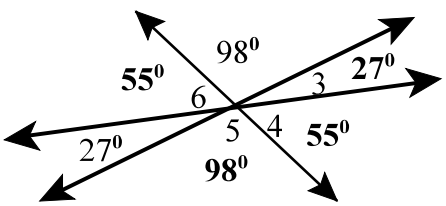
45) 

46) 

47) 

48) 

49) 

50) 

51)