Review for Chapter 2

Be sure you know the following vocabulary terms:

Conditional statement	**Counter example**
Converse statement	**Deductive reasoning**
Complementary angles	**Supplementary angles**
Vertical angles	**Perpendicular lines**

****Also be prepared for any Chapter 1 term in the vocabulary section of your chapter 2 test ****

For the following problems write the converse of the conditional statement. Then decide whether each one is true or false (including the given statement) and whether it is biconditional.

1) If two angles are vertical, then they are congruent.

Converse:

2) If today is Tuesday, then tomorrow is not Friday.

Converse:

Write a counter-example for each of the following.

3) If a number is divisible by 4, then it is divisible by 6.

4) If $|x| = 6$, then $x = -6$

Write the definition, postulate, property, or theorem that justifies the statement about the given diagram.

5) AD + DB = AB

6) m< 1 + m< 2 = m< CDB

7) < 2 ≅ < 6

8) If D is the midpoint of segment AB, then AD = ½ AB

9) If ray DF bisects <CDB, then <1 ≅ < 2

10) m< ADF + m< FDB = 180°

11) If $\overline{CD} \perp \overline{AB}$, then m< CDB = 90°

12) If < 4 ≅ < 3, then $\overrightarrow{DG}$ bisects <BDE

13) If m< 3 + m< 4 = 90°, then < 3 and < 4 are complements

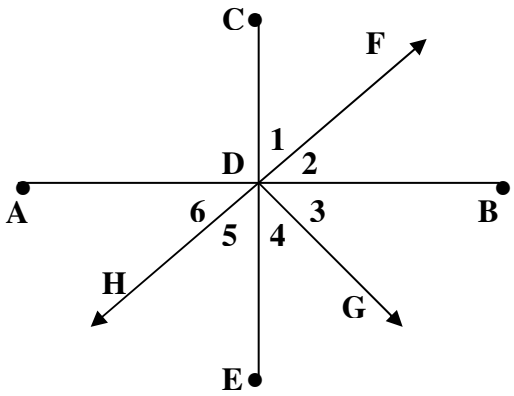
14) If < ADF and < 4 are supplements, then m< ADF + m< 4 = 180°

15) If $\overline{AB} \perp \overline{CE}$, then < ADC ≅ < ADE

16) If < 4 is complementary to < 5 and < 6 is complementary to < 5, then < 4 ≅ < 6

17) If < FDG is a right angle, then $\overrightarrow{DF} \perp \overrightarrow{DG}$

18) If <FDG ≅ < GDH, then $\overrightarrow{DG} \perp \overrightarrow{HF}$

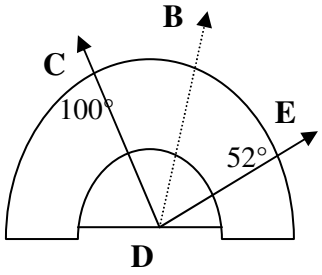


19) The coordinates of L and X are 12 and 38, respectively. N is the midpoint of segment LX, and Y is the midpoint of segment LN. Sketch the diagram then answer the following.

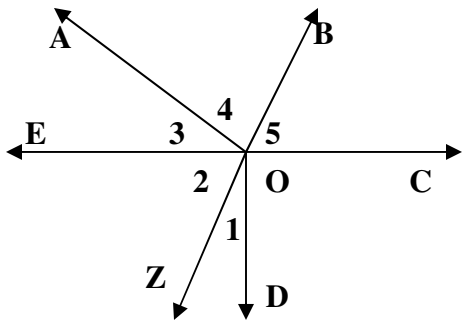
a) LN = b) coordinate of N c) LY = d) coordinate of Y

Find the coordinate of B.

20)

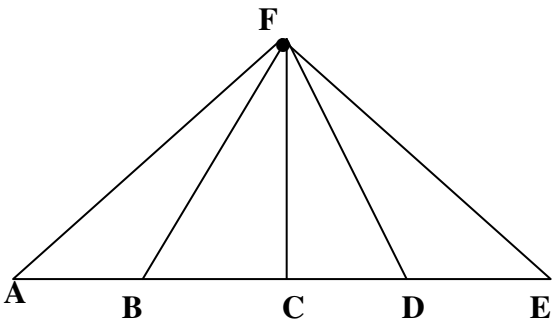


In the diagram, $\overrightarrow{OB}$ bisects < AOC and $\overleftrightarrow{EC} \perp \overrightarrow{OD}$. Find the value of x.

21) m< 5 = 2x, m< 3 = x 22) m< 1 = 2x, m< 2 = 6x + 2 23) m< 2 = 6x + 9, m< 5 = 2x + 49 24) m< 2 = 3x, m< 3 = 2x – 4 25) m< 1 = x – 8, m< 2 = 2x + 5, m< 4 = 3x - 26	

26) < 1 and < 2 are congruent angles. m< 1 = 10x – 20 and m< 2 = 8x + 2. What type of angle is angle 1?

Complete the following using the given diagram.

27) If $\overline{AF} \perp \overline{FD}$, then m< AFD = _____ 28) If < BFD and < DFE are complementary and m< BFD = 68°, then m< DFE = _____ 29) If m< FDE = 127°, then m< ADF = _____ 30) If m< AFD = m< BFE, then m< AFB = m< _____	

Answer Key:

1) Conditional (True)
Converse: If two angles are congruent, then they are vertical angles. (False)
Not biconditional
2) Conditional (True)
Converse: If tomorrow is not Friday, then today is Tuesday. (False)
Not biconditional
3) 16
4) x = 6
5) segment addition postulate
6) angle addition postulate
7) theorem 2-3
8) midpoint theorem
9) definition of an angle bisector
10) angle addition postulate
11) definition of perpendicular lines
12) definition of an angle bisector
13) definition of complementary angles
14) definition of supplementary angles
15) Theorem 2-4
16) Theorem 2-8
17) definition of perpendicular lines
18) Theorem 2-5
19) a) 13 b) 25 c) 6.5 d) 18.5
20) 76°
21) x = 36
22) x = 11
23) x = 10
24) x = 23
25) x = 31
26) right angle
27) 90°
28) 22°
29) 53°
30) < EFD