Name _____ Fall Midterm Review Packet

Directions: Fill in the key term.

1) A _____ is a point that divides a segment into two congruent segments.

2) A _____ is a ray that divides an angle into two congruent angles.

3) A _____ is a line, ray, or segment that divides a segment into two congruent segments.

4) _____ are two angles whose measure have a sum of 90^{O}.

5) _____ are two angles whose measures have a sum of 180^{O}.

6) A _____ is a pair of adjacent angles whose non-common sides are opposite rays.

7) _____ are angles that have the same measure.

8) _____ are segments that have the same measure.

9) _____ are lines that intersect at 90^{O} angles.

10) A _____ is a line that is perpendicular to a segment at the segment's midpoint.

11) A _____ is an angle that measures 90^{O}.

12) _____ states that if B is between A and C, then AB + BC = AC.

13) _____ states that if S is in the interior of ∠PQR, then m∠PQS + m∠SQR = m∠PQR.

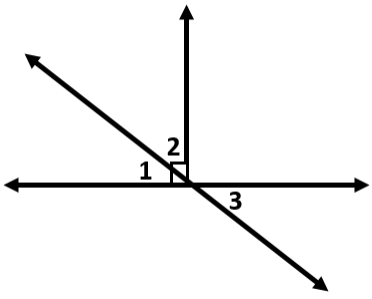
14) _____ states vertical angles are congruent.

15) _____ states all right angles are congruent.

16) _____ states if two angles are supplementary to the same angle, then the two angles are congruent.

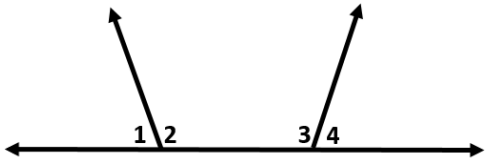
Directions: Complete the proof.

17) Given: ∠1 and ∠2 are complementary.
Prove: ∠2 and ∠3 are complementary.



Directions: Complete the proof.

18) Given: ∠1 and ∠3 are supplementary.
Prove ∠1≅ ∠4

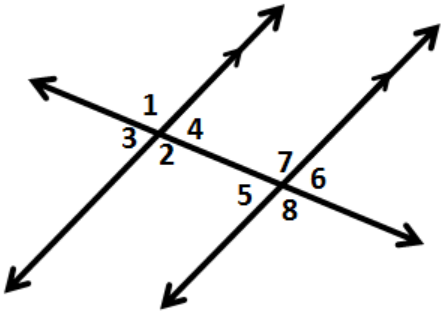


Directions: Name each set of angles using the figure!

19) Corresponding Angles

20) Alternate Interior Angles

21) Vertical Angles



22) Supplementary Angles

23) Same Side Interior Angles

24) Alternate Exterior Angles

Directions: Given p ∥ q, m∠3 = 45°, and m∠6 = 110°, find the measures of each angle.

25) m∠1 = _____

26) m∠2 = _____

27) m∠4 = _____

28) m∠4 = _____

29) m∠5 = _____

30) m∠7 = _____

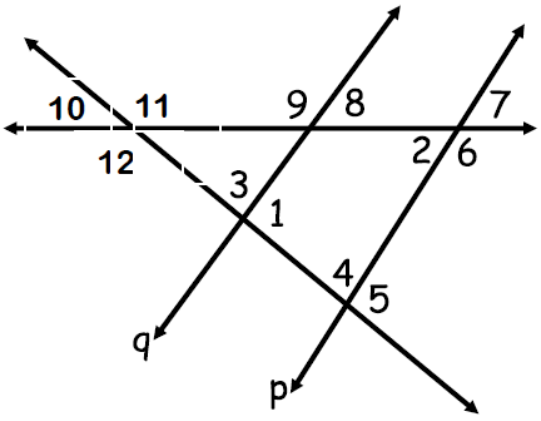
31) m∠8 = _____

32) m∠9 = _____

33) m∠10 = _____

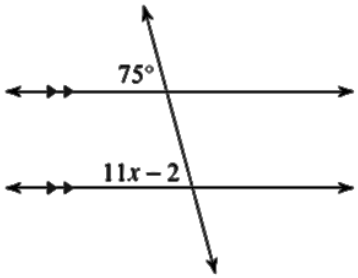
34) m∠11 = _____

35) m∠12 = _____

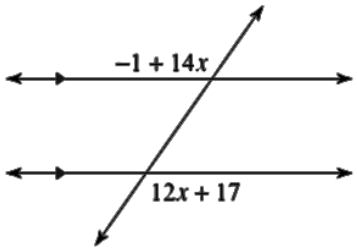


Directions: Solve for x.

36)



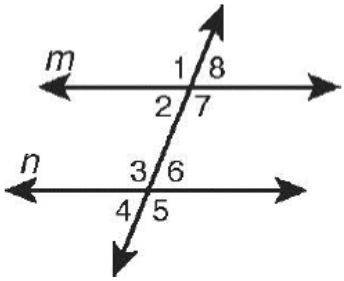
37)



Directions: Determine whether lines m and n must be parallel from the given information. Justify your answer.

38) ∠2 ≅ ∠4

39) ∠1 ≅ ∠7



40) m∠7 = 92° & m∠6 = 88°

Directions: Determine whether the following statements may be concluded from the given figure.

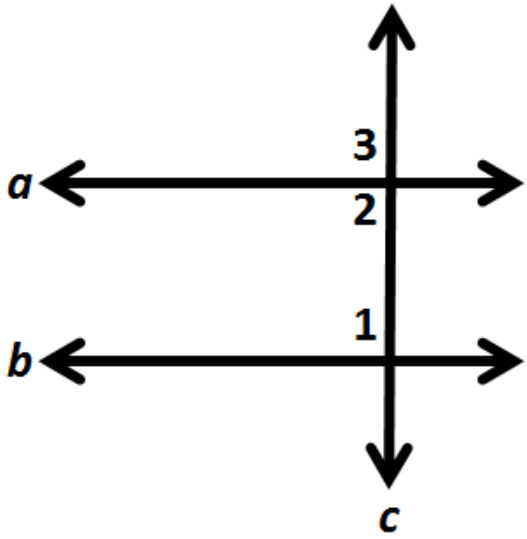
41) Given: ∠2 ≅ ∠3
Statement: $a \parallel b$

42) Given: $a \parallel b$
Statement: $a \perp c$

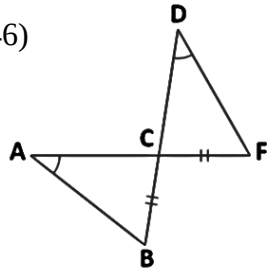
43) Given: $a \perp c$ and $b \perp c$
Statement: $a \parallel b$

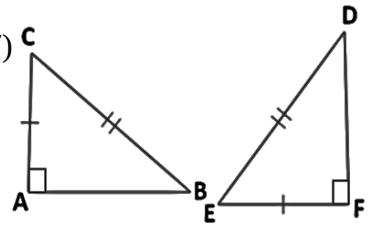
44) Given: ∠2 and ∠1 are right angles
Statement: $a \parallel b$

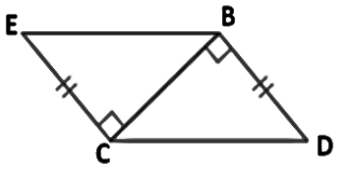
45) Given: ∠2 and ∠1 are supplementary
Statement: $a \parallel b$



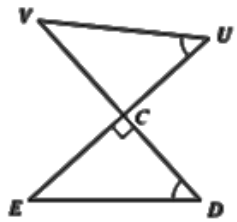
Directions: Determine if the following triangles are congruent by SSS, SAS, ASA, AAS, or HL. Then write a triangle congruence statement.

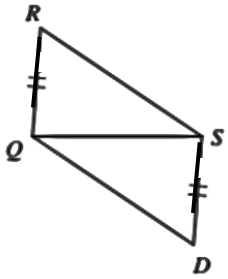
46) 

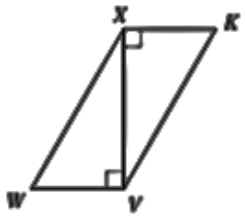
47) 

48) 

Directions: Determine the missing information needed to prove the triangles congruent by the given theorem or postulate.

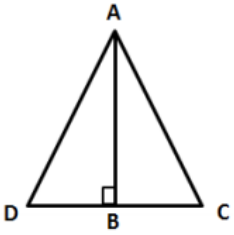
49) AAS 

50) SAS 

51) ASA 

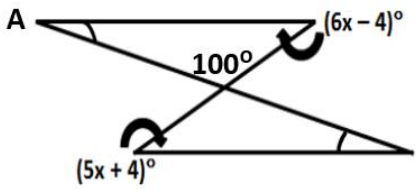
Directions: Complete each proof.

52) Given: B is the midpoint of $\overline{DC}$; $\overline{AB} \perp \overline{CD}$
Prove: ∠DAB ≅ ∠CAB

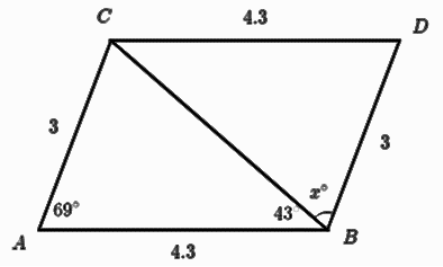


Directions: Find the measure of the angle.

53) m∠A

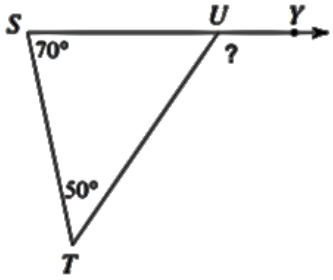


54) m∠CBD

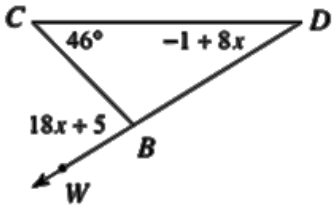


Directions: Find the measure of each indicated angle.

55) m∠TUY



56) m∠*D*



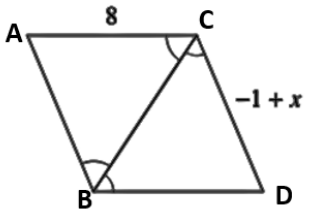
Directions: Solve.

57) Given: ΔABC ≅ ΔFED; AC = 4x; FD = 8x – 20
Find: FD

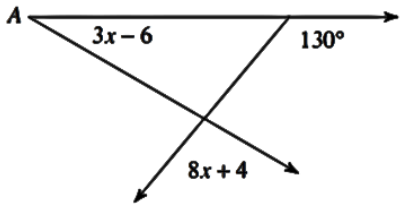
58) Given: ΔABC ≅ ΔFED; m∠A = 5x + 20, m∠B = 12x; m∠D = –x + 32
Find: m∠E

Directions: Solve.

59) What is x? What is AB?



60) What is m∠A?



61) In an isosceles triangle, the base angles are 2 times the measure of the vertex angle. What is the measure of each angle in this triangle?

62) Given: The triangles are congruent.
Are these triangles also equilateral? Justify.