

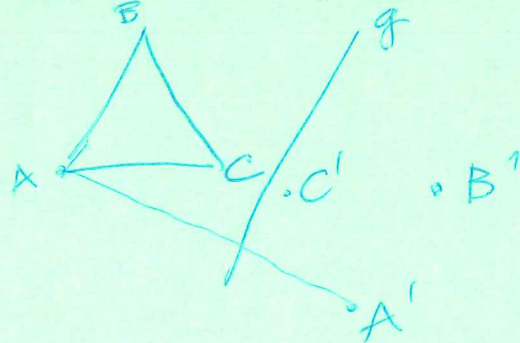
**Honors Geometry**  
**Semester 1 Multiple Choice Review**

Name: KEY  
 Date: \_\_\_\_\_ Class: \_\_\_\_\_

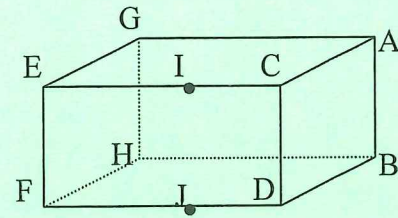
Circle the letter of the best answer.

1.  $\triangle ABC$  is reflected over line  $g$  with point  $A$  not on line  $g$ . What relationship must exist between line  $AA'$  and line  $g$ ?

- [A] They are parallel
- [B] They are perpendicular**
- [C] They are congruent
- [D] They are not related



Use the picture at the right to answer questions 2 & 3.



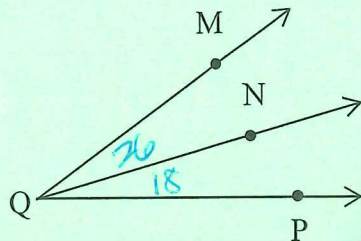
2. Which of the following points are collinear?

- [A] A, C, E
- [B] G, I, C
- [C] G, I, D
- [D] F, D, J**

3. Which of the following points are coplanar?

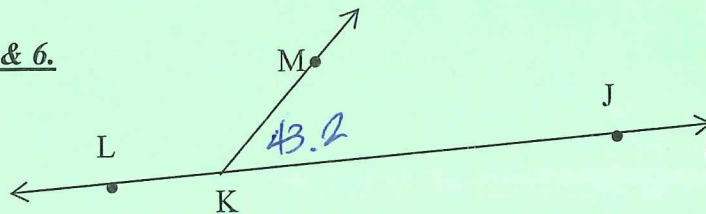
- [A] G, B, I, D
- [B] F, J, H, I
- [C] G, E, J, B
- [D] A, C, E, I**

4. If  $m\angle MQN = 26^\circ$  and  $m\angle PQN = 18^\circ$ , what is the measure of  $\angle MQP$ ?



- [A]  $8^\circ$
- [B]  $22^\circ$
- [C]  $44^\circ$**
- [D]  $468^\circ$

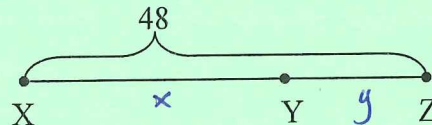
Use the picture at the right to answer questions 5 & 6.



5.  $\angle JKL$  is what kind of angle?  
 [A] Obtuse      [B] Right      [C] Acute      **[D] Straight**
6. If  $m\angle MKJ = 43.2^\circ$ , what is the measure of  $\angle LKM$ ?  
 [A]  $43.2^\circ$       [B]  $46.8^\circ$       [C]  $86.4^\circ$       **[D]  $136.8^\circ$**

Use the picture at the right to answer questions 7 & 8 given that the ratio of XY to YZ is 3 to 1.

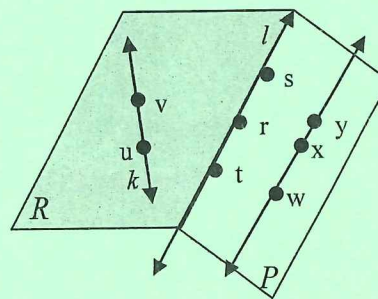
$$\frac{3}{4} = \frac{x}{48}$$



7. Find the length of segment XY.  
 [A] 12      [B] 24      **[C] 36**      [D] 40
8. Find the length of segment YZ.  
 [A] 8      **[B] 12**      [C] 24      [D] 36

$$\frac{1}{4} = \frac{y}{48}$$

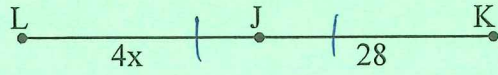
Use the picture at the right to answer questions 9 & 10.



9. Which of the following statements is false?  
 [A] Points w, x & y are collinear      **[B] Points u, v, t & w are coplanar**  
 [C] Points s, t & r are collinear      [D] Points s, y, t & w are coplanar
10. Which of the following statements is true?  
**[A] Planes P & R intersect at line l**      [B] Lines l & k are parallel  
 [C] Plane P contains line k      [D] Point u is in plane P if you extend it

$$4x = 28$$

11. J is the midpoint between of LK  
Find the value of x.



- [A] 4      [B] 7      [C] 32      [D] 112

12. What are the coordinates of the midpoint of the segment joining (2, 7) & (-4, 12)?

- [A] (-1, 19)      [B] (-6, 5)      [C] (3, 9.5)      [D] (-1, 9.5)

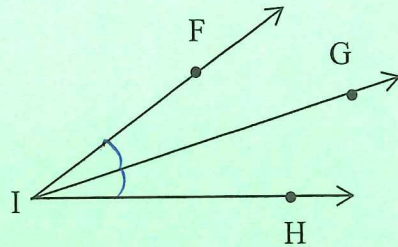
$$\frac{-2}{2}, \frac{19}{2}$$

$$-1, 9.5$$

13.  $\angle 3$  is complementary to  $\angle 1$ , and  $m\angle 1 = 64\frac{3}{4}^\circ$ . What is  $m\angle 3$ ?

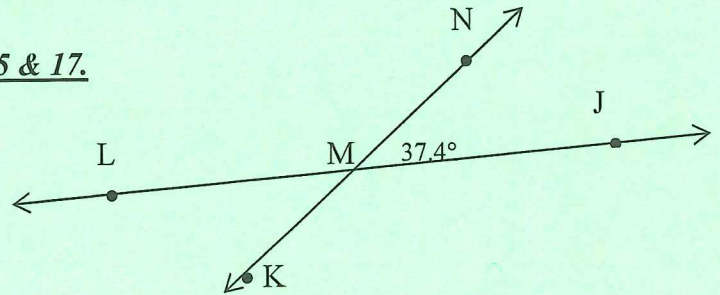
- [A]  $25\frac{1}{4}^\circ$       [B]  $64\frac{3}{4}^\circ$       [C]  $115\frac{1}{4}^\circ$       [D]  $154\frac{3}{4}^\circ$

14. If  $m\angle FIG = 25.68^\circ$  and IG is an angle bisector, what is the measure of  $\angle FIH$ ?



- [A]  $12.84^\circ$       [B]  $25.68^\circ$       [C]  $38.52^\circ$       [D]  $51.36^\circ$

Use the picture at the right to answer questions 15 & 17.



15.  $\angle JMK$  &  $\angle LMN$  are what kind of angles?

- [A] Adjacent      [B] Vertical      [C] Linear Pair      [D] Supplementary

16. What is the  $m\angle NML$ ?

- [A]  $37.4^\circ$       [B]  $74.8^\circ$       [C]  $112.2^\circ$       [D]  $142.6^\circ$

17. What is the  $m\angle KML$ ?

- [A]  $37.4^\circ$       [B]  $74.8^\circ$       [C]  $112.2^\circ$       [D]  $142.6^\circ$

18. The transformation rule  $(x, y) \rightarrow (x, -y)$  is the rule for a(n) \_\_\_\_? \_\_\_\_.

- [A] X-Axis Reflection
- [B] Y-Axis Reflection
- [C]  $90^\circ$  Clockwise Rotation
- [D]  $90^\circ$  Counterclockwise Rotation

19. Which transformation does not have to preserve congruence?

- [A] Reflection
- [B] Translation
- [C] Rotation
- [D] Dilation

20. The distance from the midpoint of a side to the centroid is \_\_\_\_?\_\_\_\_ of the entire median?

- [A]  $1/4$
- [B]  $1/3$
- [C]  $1/2$
- [D]  $3/4$

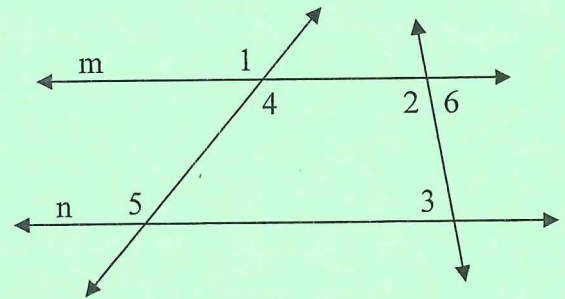
21. If two parallel lines are cut by a transversal, then same side interior angles are \_\_\_\_? \_\_\_\_.

- [A] Supplementary
- [B] Complementary
- [C] Congruent
- [D] Acute



Use the picture at the right to answer questions 22-24.

Given:  $m \parallel n$



22.  $\angle 1$  &  $\angle 5$  are what kinds of angles?

- [A] Alternate Interior
- [B] Corresponding
- [C] Alternate Exterior
- [D] Same Side Interior

23. If the  $m\angle 2 = 95^\circ$ , then  $m\angle 3 =$  \_\_\_\_.

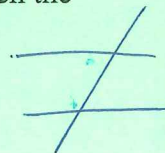
- [A]  $5^\circ$
- [B]  $10^\circ$
- [C]  $85^\circ$
- [D]  $95^\circ$

24. If the  $m\angle 5 = 121.4^\circ$ , then  $m\angle 1 =$  \_\_\_\_.

- [A]  $29.3^\circ$
- [B]  $58.6^\circ$
- [C]  $60.7^\circ$
- [D]  $121.4^\circ$

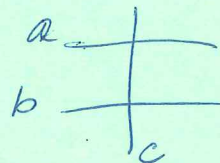
25. If a line transverses a pair of lines such that same side interior angles are supplementary, then the lines cut by the transversal are \_\_\_\_?\_\_\_\_.

- [A] Skew     [B] Parallel    [C] Intersecting    [D] Perpendicular



26. Complete the following statement. If  $a \parallel b$  and  $b \perp c$  then \_\_\_\_?\_\_\_\_.

- [A]  $a \sim c$      [B]  $a \perp c$     [C]  $a = c$     [D]  $a \parallel c$

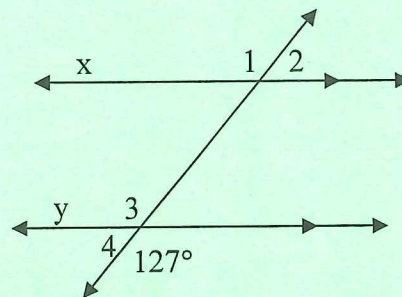


27. Two lines are \_\_\_\_?\_\_\_\_ lines if they do not intersect and do not lie in the same plane.

- [A] Skew    [B] Parallel    [C] Intersecting    [D] Perpendicular

28. Which statement is true?

- [A]  $\angle 1 = 63^\circ$     [B]  $\angle 2 = 127^\circ$   
 [C]  $\angle 4 = 63^\circ$      [D]  $\angle 3 = 127^\circ$

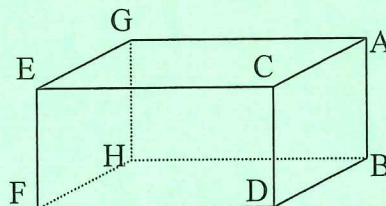


Use the picture at the right to answer questions 29 & 30.

29. Identify the pair of lines that are skew?

- [A] ~~DB & FH~~    [B] ~~GA & <sup>AC</sup>ED~~  
 [C] HF & EC    [D] ~~EF & GH~~

change



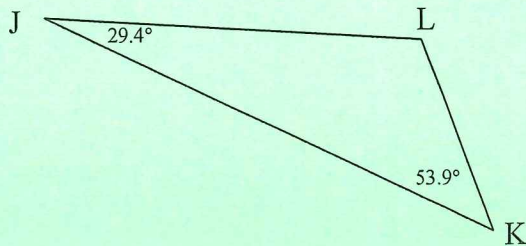
30. Plane CEG & plane HBD are what kind of planes?

- [A] Parallel    [B] Intersecting    [C] Skew    [D] Perpendicular

Use the picture at the right to answer questions 31 & 32.

31. What is the measure of  $\angle L$ ?

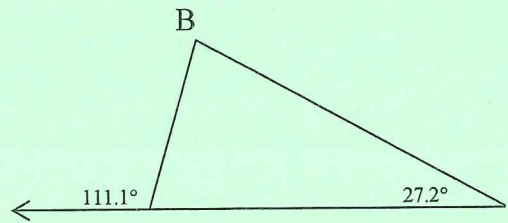
- [A]  $24.5^\circ$     [B]  $83.3^\circ$   
 [C]  $96.7^\circ$     [D]  $126.1^\circ$



32. What kind of triangle is  $\triangle JKL$ ?

- [A] Isosceles     [B] Obtuse    [C] Acute    [D] Right

33. What is the measure of  $\angle B$ ?
- [A]  $68.9^\circ$       [B]  $83.9^\circ$
- [C]  $96.1^\circ$       [D]  $138.3^\circ$



34. A(n) \_\_\_\_\_ of a triangle is a segment from a vertex to the midpoint of the opposite side.
- [A] Altitude      [B] Median      [C]  $\angle$  Bisector      [D]  $\perp$  Bisector

35. In  $\triangle APB$ ,  $m\angle A = 58^\circ$  and  $m\angle P = 47^\circ$ . Classify the triangle by its sides and its angles.
- [A] Right Scalene       $\angle B = 75$       [B] Obtuse Scalene
- [C] Isosceles      [D] Acute Scalene

36. An isosceles triangle has \_\_\_\_\_ sides that are the same length.
- [A] one      [B] two      [C] three      [D] all

37. What kind of transformation is represented by the following transformational rules?

$$(x,y) \rightarrow (y,-x)$$

- [A] Rotation
- [B] Translation
- [C] Reflection
- [D] Dilation

$$\begin{aligned} \frac{-6+x}{2} &= 1 & \frac{6+y}{2} &= -2 \\ -6+x &= 2 & 6+y &= -4 \\ x &= 8 & y &= -10 \end{aligned}$$

38. Point A(1, -2) is the midpoint between B(-6, 6) & C, find the coordinates of C.
- [A] (-2.5, 2)      [B] (-5, 4)      [C] (4, -5)      [D] (8, -10)

39. In  $\triangle AMR$ ,  $m\angle A = 54^\circ$  and  $m\angle M = 72^\circ$ . Classify the triangle by its sides and its angles.
- [A] Acute Isosceles       $\angle R = 54$       [B] Acute Scalene
- [C] Obtuse Isosceles      [D] Obtuse Scalene

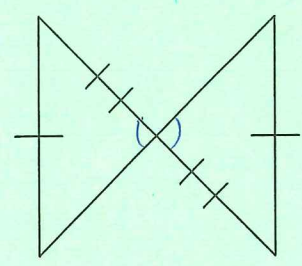
$x-5=2$   
 $x=7$   
 $y+4=3$   
 $y=-1$

40.  $A'(2,3)$  is the image after the translation  $(x,y) \rightarrow (x-5,y+4)$ , what are the original coordinates of A?

- [A] (-3,-1)      [B] (-3,7)      [C] (7,-1)      [D] (7,7)

41. Decide whether there is enough information to prove that the triangles are congruent. If so, include the congruence postulate or theorem you would use.

- [A] Not enough info      [B] Yes, SAS  
 [C] Yes, SSA      [D] Yes, SSS



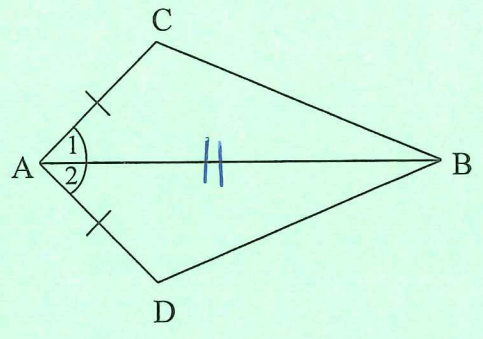
42. If  $\triangle JKL \cong \triangle TSR$ , which of the following is not true?

- [A]  $\angle K \cong \angle S$       [B]  $\angle R \cong \angle L$       [C]  $ST \cong LJ$       [D]  $LJ \cong RT$

Use the diagram & the given to answer questions 43 & 44 by filling in the correct justifications.

Given:  $CA \cong DA$  ;  $\angle 1 \cong \angle 2$   
 Prove:  $\triangle ABC \cong \triangle ABD$

Statements	Justifications
1. $CA \cong DA$ ; $\angle 1 \cong \angle 2$	1. Given
2. $AB \cong AB$	2. <u>Question 43</u>
3. $\triangle ABC \cong \triangle ABD$	3. <u>Question 44</u>



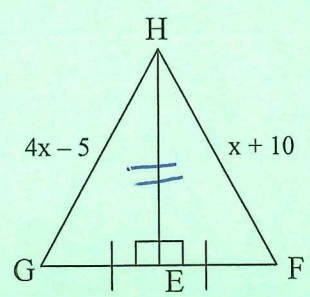
43. [A] Additive Property      [B] Distributive Property  
 [C] Reflexive Property      [D] Transitive Property

44. [A] AAS      [B] ASA      [C] SAS      [D] SSS

Use the diagram at the right to answer questions 45 & 46.

45. What congruence postulate or theorem would you use to prove that  $\triangle GEH \cong \triangle FEH$ ?

- [A] ASA      [B] HL  
 [C] SAS      [D] SSS

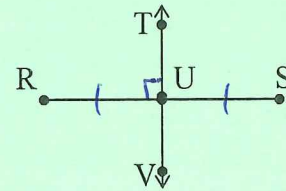


$4x-5 = x+10$   
 $3x = 15$

46. Use the information given to find the value of x.

- [A] 3      [B] 4      [C] 5      [D] 6

47. Given: TV is the  $\perp$  bisector of RS.  
Which statement cannot be proven true?

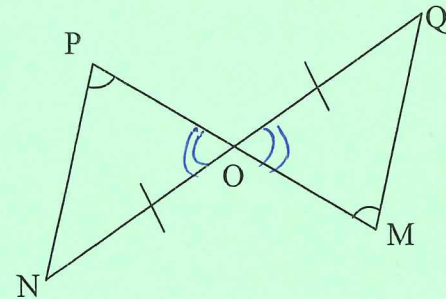


- [A]  $RU \cong SU$                       [B] U is the midpoint of RS  
[C]  $\angle SUV$  is a right  $\angle$       [D]  $TU \cong UV$

Use the diagram and given information to answer questions 48 & 49 by filling in the correct justifications.

Given:  $NO \cong QO$  ;  $\angle P \cong \angle M$   
Prove:  $\triangle NOP \cong \triangle QOM$

Statements	Justifications
1. $NO \cong QO$ ; $\angle P \cong \angle M$	1. Given
2. $\angle PON \cong \angle MOQ$	2. <u>Question 48</u>
3. $\triangle NOP \cong \triangle QOM$	3. <u>Question 49</u>



48. [A] Complementary  $\angle$ s are  $\cong$                       [B] Congruent  $\angle$ s are  $\cong$   
[C] Right  $\angle$ s are  $\cong$                                       [D] Vertical  $\angle$ s are  $\cong$

49. [A] AAS                      [B] ASA                      [C] SAS                      [D] SSS

50. What congruence postulate or theorem would you use to prove that  $\triangle WYX \cong \triangle YWX$ ?

- [A] ASA                      [B] SAS  
[C] SSS                      [D] HL

