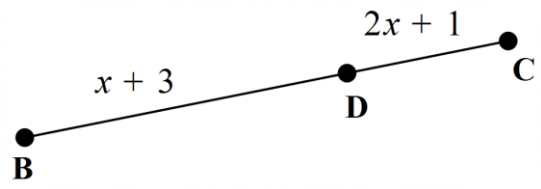
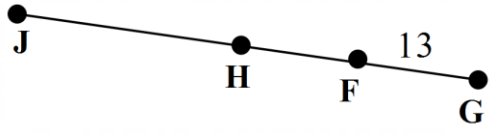
1) Given that D is between B and C, $BD = x + 3$, $CD = 2x - 1$, and $BC = 13$. Find BD.



2) Given that F is the midpoint of $\overline{GH}$ and H is the midpoint of $\overline{GJ}$. Find the length of JF.



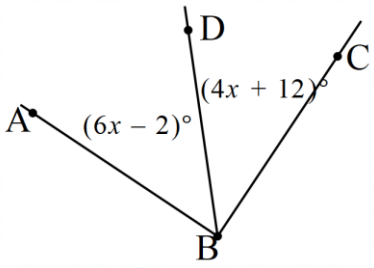
3) Find the midpoint of segment $\overline{GH}$: $G(-3, 5); H(7, -2)$

4) Given that M is the midpoint of segment $\overline{RS}$. Find the coordinates of the missing endpoint if $R(2, -8)$ and $M(10, -4)$.

For #5 – 6, find the request value, given that BD bisects $\angle ABC$.

5) Find x.

6) Find $m\angle DBC$.



7) Given that $\angle E$ is complementary to $\angle F$. If $\angle E = (3x + 20)$ and $m\angle F = (2x - 10)$, then find x and $m\angle E$.

8) Given that $m\angle D = (2x + 70)°$ and $m\angle E = (8x - 10)°$. If $\angle D$ is supplementary to $\angle E$, then find the value of $\angle E$.

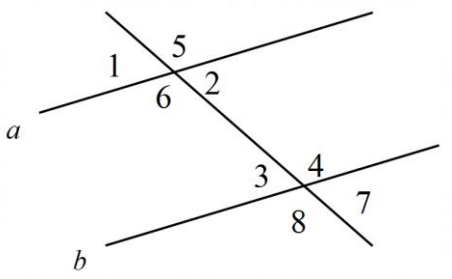
9) Find the length of AB if the endpoints have the following coordinates: $A\ (-3, 2)$ and $B\ (5, -2)$. Round your answer to one decimal place, if needed. Use the distance formula or the Pythagorean Theorem.

For #10 – 12: Use the diagram shown to the right.

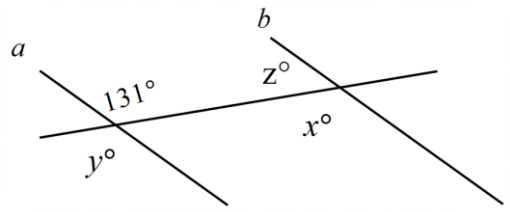
10) Which angle is corresponding with $\angle 5$?

11) Which angle is alternate interior with $\angle 3$?

12) Which angle is consecutive interior with $\angle 6$?

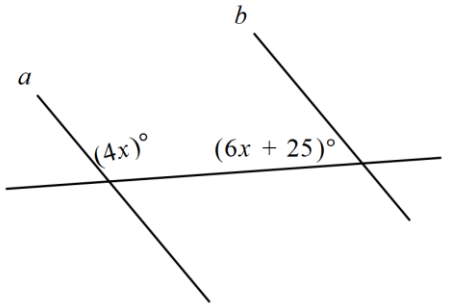


13) Given that *a//b*, solve for each variable.

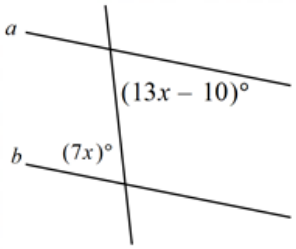


For #14 – 15: Given that *a//b*, solve for *x*.

14)



15)

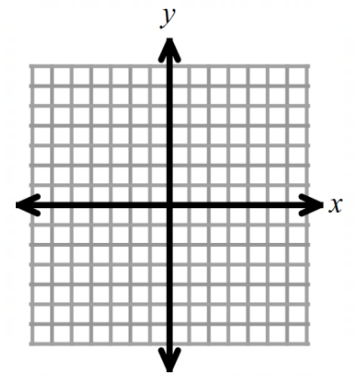


16) Complete the following syllogism:

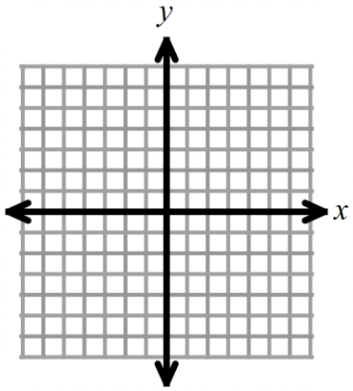
- If Owen gets his driver's license, then he will drive his sister to school.
- If Owen drives his sister to school, then his parents will give him money for gas.
- If Owen gets money for gas, then he will not have to get a job.

Conclusion:

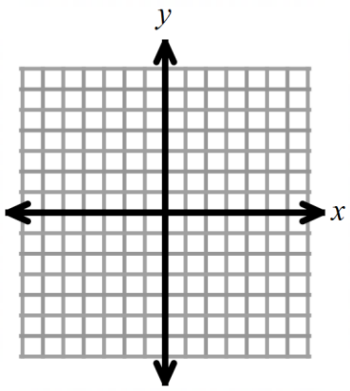
17) Point $A(3,-2)$ is reflected across the line $x=-2$. Find the coordinates of A'.



18) Point $B(-1,-5)$ is rotated 90 degrees clockwise about the origin. Find B'.



19) Point $C\ (4,2)$ is reflected across the x-axis. Find C'.



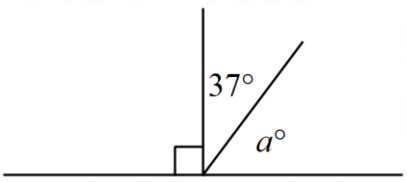
20) A shape is translated along the vector $\langle -2,5\rangle$. Describe the movement in words.

21) Line A is parallel to the line $y=-3x+4$. Line A passes through the point $(-7,5)$. Write the equation of line A in (h,k) form.

22) Line B is perpendicular to the line $y=-3x+4$. Line B passes through the point $(11,-2)$. Write the equation of line B in (h,k) form.

For #23 – 24, find the value of each variable.

23)



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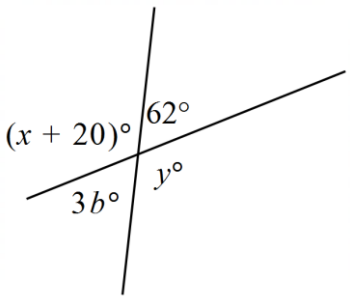
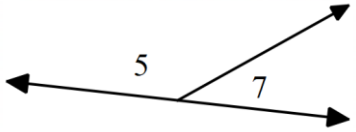


Geom Sem 1 Rev Wk #1

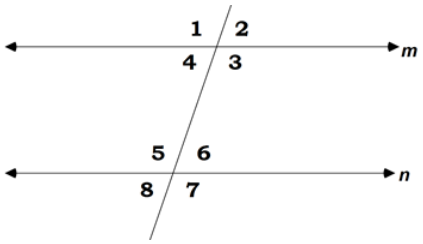
Name:

For #1 – 5: Complete each proof.



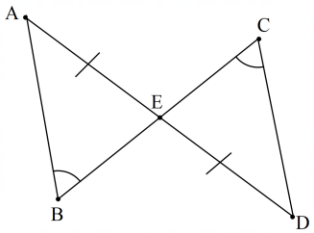
Given: ∠5 and ∠7 form a linear pair
Prove: ∠5 + ∠7 = 180°

Statement	Reason
1. ∠5 and ∠7 form a linear pair	1. Given
2. ∠5 + ∠7 = 180°	2. #1



Given: $m \parallel n$
Prove: ∠4 ≅ ∠8

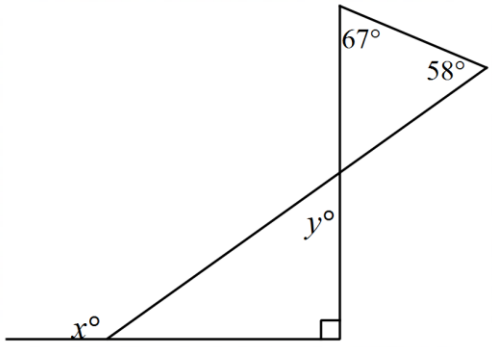
Statement	Reason
1. #2	1. #3
2. ∠4 ≅ ∠8	2. #4



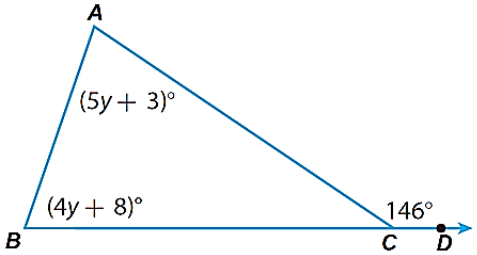
Given: $\angle B \cong \angle C$; $\overline{AE} \cong \overline{ED}$
Prove: $\overline{AB} \cong \overline{CD}$

Statement	Reason
1) $\angle B \cong \angle C$; $\overline{AE} \cong \overline{ED}$	1) **#5**
2) $\angle AEB \cong \angle DEC$	2) **#6**
3) $\Delta ABE \cong \Delta DCE$	3) **#7**
4) $\overline{AB} \cong \overline{CD}$	4) **#8**

9) Find the value of each variable in the diagram shown.



10) Find *y* in the diagram shown.

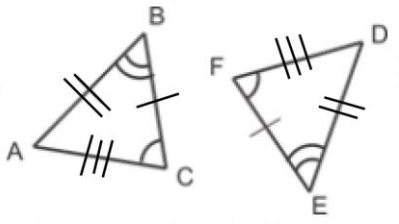


11) If $\Delta CED \cong \Delta RQP$, which of the following is true?

A. $\angle C \cong \angle Q, \angle E \cong \angle R, \angle D \cong \angle P$
B. $\angle C \cong \angle Q, \angle E \cong \angle P, \angle D \cong \angle R$
C. $\angle C \cong \angle P, \angle E \cong \angle R, \angle D \cong \angle Q$
D. $\angle C \cong \angle R, \angle E \cong \angle Q, \angle D \cong \angle P$

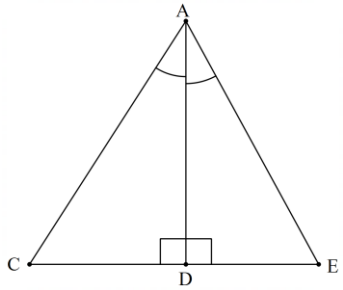
12) Use the diagram to the right to complete the congruence statement:

$\Delta FDE \cong$ _____



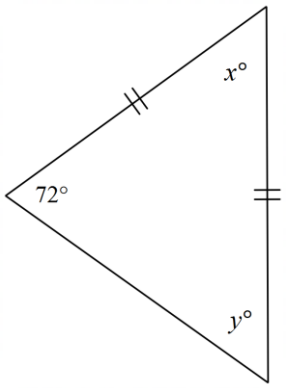
13) **Multiple Choice.** The triangles below are congruent. Which statement correctly describes the congruence of the triangles shown in the diagram below?

A. $\Delta ACD \cong \Delta AED; by\ SAS$
B. $\Delta ACD \cong \Delta AED; by\ ASA$
C. $\Delta ACD \cong \Delta DAE; by\ SAS$
D. $\Delta ACD \cong \Delta DAE; by\ ASA$



For #14 – 15: Find the variable(s).

14)



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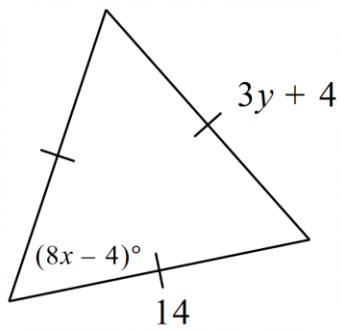
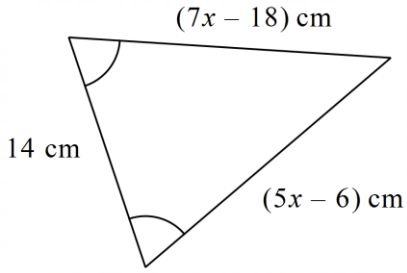
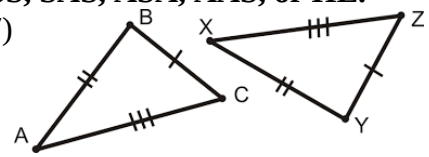
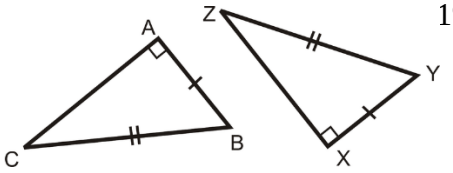


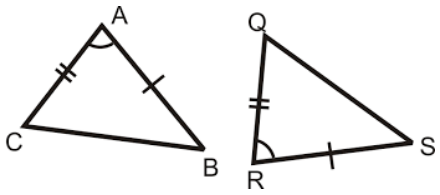
16) Find the perimeter of the triangle shown to the right.



For #17 – 19: Provide the postulate or theorem why each set of triangles are congruent. Choose from SSS, SAS, ASA, AAS, or HL.

17) 

18) 

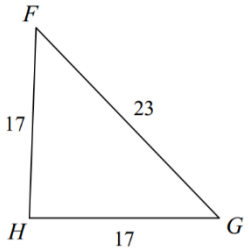
19) 

For #20 – 22: **Using the triangles from #18,** complete the following:

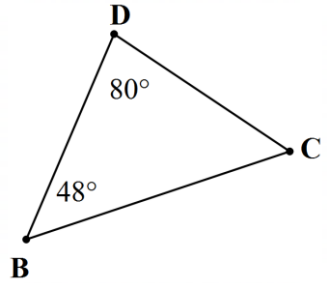
20) $\Delta ACB \cong$ _____ 21) $\angle C \cong$ _____ 22) $\overline{XZ} \cong$ _____

For #23 – 24: use the provided diagrams.

23) Name the smallest and largest angle.



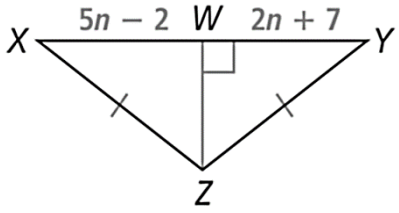
24) Name the shortest and longest sides.



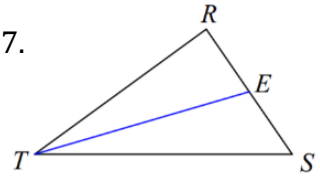
25) Multiple Choice. Which side lengths below could form a real triangle? Select all that apply.

A. 3, 4, 7
B. 9, 2, 10
C. 3, 3, 6
D. 11, 11, 11
E. 20, 30, 11

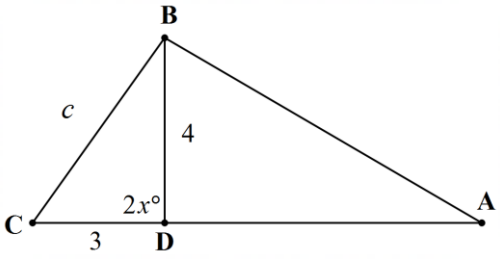
26) $\overline{WZ}$ is the perpendicular bisector of $\overline{XY}$. Find the value of *n*.



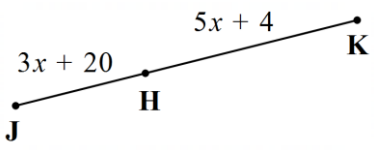
27) $\overline{TE}$ is a median. Find the length of $\overline{SR}$ if $\overline{ER} = 3.7$.



28) Given that $\overline{BD}$ is an altitude, find the value of each variable.



1. Find the length of JH, given that $JK = 128$.



A. $JH = 13$

B. $JH = 8$

C. $JH = 54$

D. $JH = 59$

2. Find the midpoint of $\overline{XY}$ if $X(-6, 4)$ and $Y(-2, 3)$.

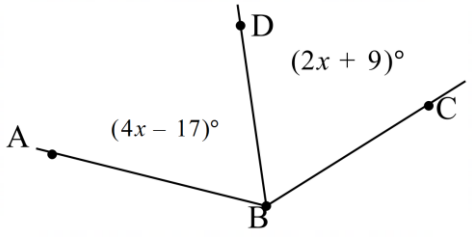
A. $(-4, 3.5)$

B. $(-2, 0.5)$

C. $(-8,7)$

D. $(-2, 3.5)$

3. $\overrightarrow{DB}$ bisects $\angle ABC$. What is the value of x?



A. $x = 13$

B. $x = 1.7$

C. $x = 4$

D. $x = 9$

4. Given that $m\angle D = (5x + 30)°$ and $m\angle E = (3x - 40)°$. If $\angle D$ is supplementary to $\angle E$, then find x.

A. $x = 10$

B. $x = 12.5$

C. $x = 21.25$

D. $x = 23.75$

5. M is the midpoint of $\overline{AB}$. Find the coordinates of the missing endpoint B if $A(-4, 7)$ and $M(2, 9)$.

A. $(-1, 8)$

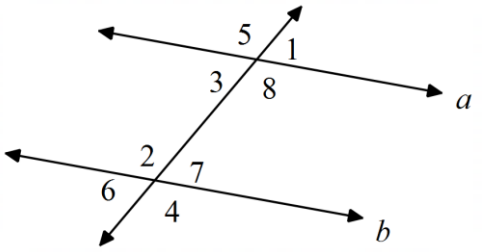
B. $(-10, 5)$

C. $(8, 11)$

D. $(-2, 2)$

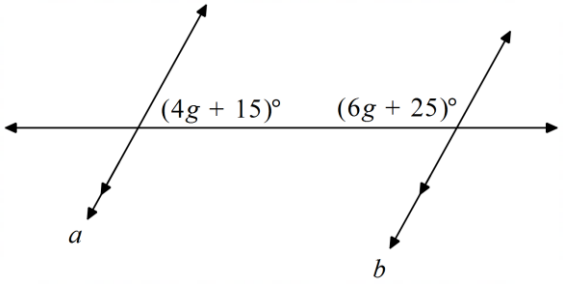
6) Given the diagram as shown, which statements below are true? **Select all that apply.**

A) ∠3 and ∠7 are alternate interior angles.
B) ∠8 and ∠4 are corresponding angles.
C) ∠8 and ∠2 are consecutive interior angles.
D) ∠3 and ∠2 are consecutive interior angles.



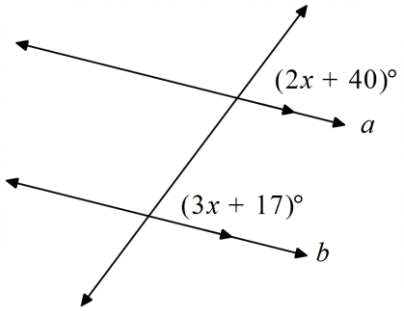
7) Find the value of g if $a \parallel b$.

A) $g = 4$
B) $g = 14$
C) $g = 5$
D) $g = 18$



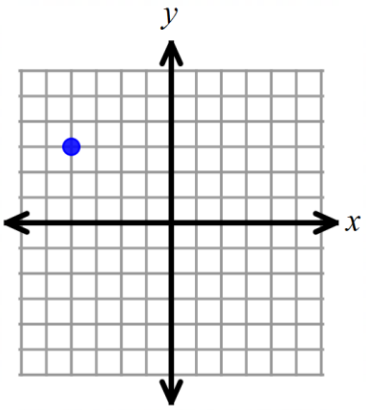
8) Solve for x if $a \parallel b$.

A. $x = 7$
B. $x = 11.2$
C. $x = 57$
D $x = 23$



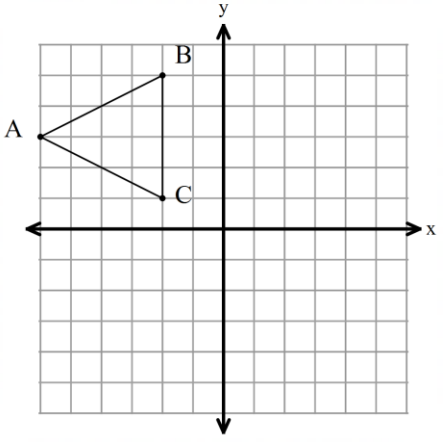
9) Find the coordinates of the image of the point $B(-4, 3)$ when it is reflected across the line $y = -1$.

A. $(-4, -5)$ **C.** $(2, 3)$
B. $(-4, -3)$ **D.** $(-5, -3)$



10) ΔABC is reflected across the x-axis. What are the coordinates of the image of A?

A. $A'(-3, 6)$
B. $A'(-6, -3)$
C. $A'(6, 3)$
D. $A'(6, -3)$



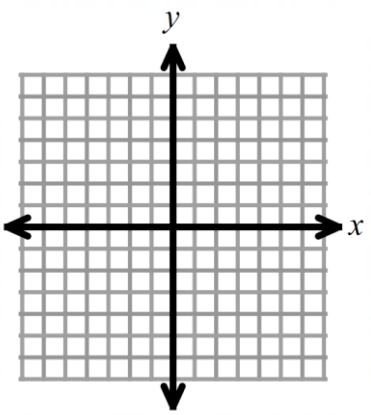
11. Which description below correctly describes the movement of a translation along the vector $\langle -2, 5 \rangle$?

A. Down 2, right 5
B. Right 2, down 5
C. Left 2, up 5
D. Left 2, down 5

12. Find the length of PQ if $P(4, 1)$ and $Q(8, -3)$. Write your answer as a decimal rounded to one decimal place, if needed. Use the distance formula or the Pythagorean Theorem.

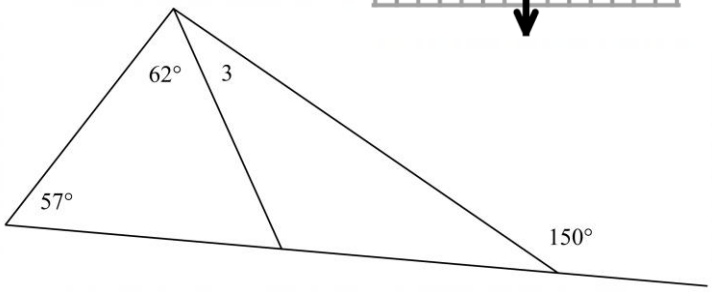
A. 8
B. 4
C. 4.5
D. 5.7

13. Given point A at $(-5, 2)$. If A is rotated 90 degrees clockwise about the origin, then what are the coordinates of A'?



A. (-2, 5) **C.** (2, 5)
B. (5, 2) **D.** (-5, -2)

14. Find $m\angle 3$ in the diagram at the right.



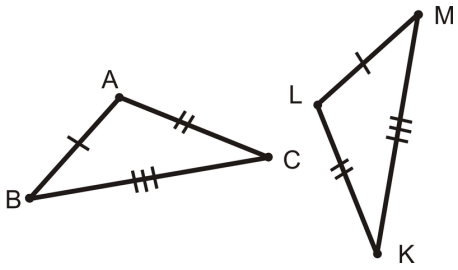
A. $m\angle 3 = 30°$
B. $m\angle 3 = 31°$
C. $m\angle 3 = 119°$
D $m\angle 3 = 61°$

15. Given that $\Delta ECD \cong \Delta PQR$, then complete this statement: $\angle C \cong$ _____

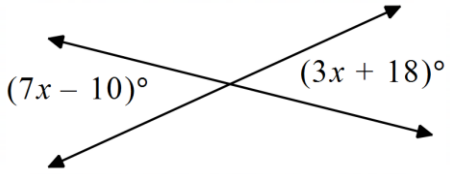
A. $\angle Q$ **B.** $\angle E$ **C.** $\angle P$ **D.** $\angle R$

16. Refer to the figure to complete the congruence statement, $\Delta ABC \cong$ _____.

A. ΔLKM
B. ΔMLK
C. ΔKLM
D. ΔLMK

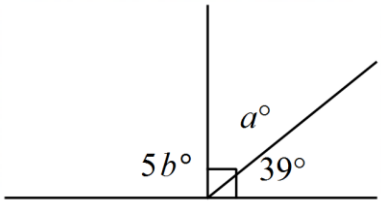


17. Find x in the diagram shown.



A. $x = 17.2$
B. $x = 7$
C. $x = 14.8$
D. $x = 13$

18. Find a and b.



A. $a = 51; b = 90$
B. $a = 61; b = 90$
C. $a = 61; b = 18$
D. $a = 51; b = 18$

19. Complete the syllogism below.

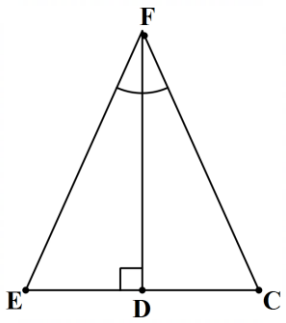
- If Michelle gets all As and Bs, then she will get to choose where to go to dinner.
- If Michelle gets to choose where to go to dinner, then she will choose an Italian restaurant for dinner.

A. If Michelle gets all As and Bs, then she will choose an Italian restaurant for dinner.
B. If Michelle will choose an Italian restaurant for dinner, then she gets all As and Bs.
C. If Michelle gets to choose where to go to dinner, then she will choose an Italian restaurant.
D. If Michelle gets all As and Bs, then she will get to choose where to go to dinner.

20. Which of the sets of sides below would form a real triangle? Select all that apply.

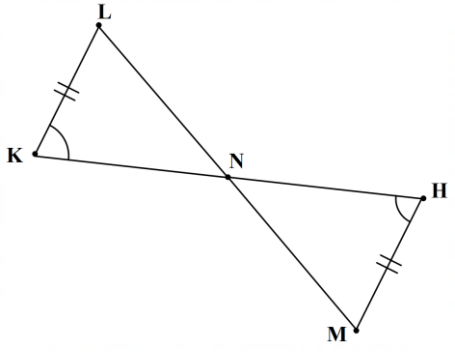
A. 3, 3, 3
B. 5, 5, 10
C. 7, 8, 9
D. 3, 7, 11

21. What postulate or theorem could be used to prove that the triangles shown are congruent?



A. SSS
B. SAS
C. ASA
D. AAS
E. HL

22. What postulate or theorem could be used to prove that the triangles shown are congruent?



A. SSS
B. SAS
C. ASA
D. AAS
E. HL

23) Write the equation of the line, in (h, k) form, that is perpendicular to $y = -\frac{2}{5}(x - 1) + 4$ and passes through $(8, -11)$.

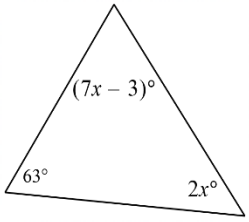
A. $y = -\frac{2}{5}(x - 8) - 11$
B. $y = \frac{5}{2}(x - 8) - 11$
C. $y = \frac{2}{5}(x + 8) + 11$
D. $y = -\frac{5}{2}(x + 8) + 11$

24) Write the equation of the line, in (h, k) form, that is parallel to $y = 3(x + 2) - 5$ and passes through $(-7, -6)$.

A. $y = -3(x + 7) - 6$
B. $y = \frac{1}{3}(x + 7) + 6$
C. $y = 3(x - 7) + 6$
D. $y = 3(x + 7) - 6$

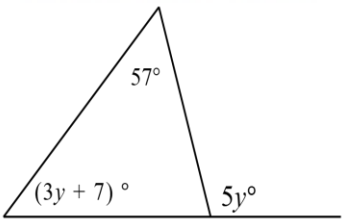
25) Find *x*.

A. $x = 13.\overline{3}$
B. $x = 10.\overline{3}$
C. $x = 7.\overline{3}$
D. $x = 3.\overline{3}$



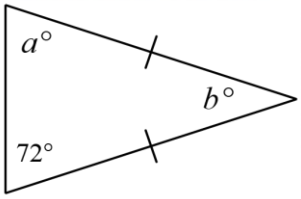
26) Find *y*.

A. $y = 32$
B. $y = 14.5$
C. $y = 23$
D. $y = 7.5$



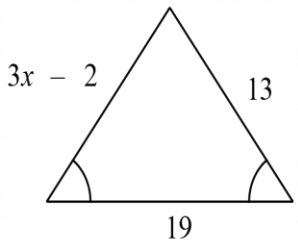
27) Find *a* and *b* in the triangle shown. **Select all that apply.**

A. $a = 108$
B. $a = 72$
C. $a = 36$
D. $b = 108$
E. $b = 72$
F. $b = 36$



28) Find *x* in the triangle shown below.

A. $x = 5$
B. $x = 6$
C. $x = 7$
D. $x = 13$



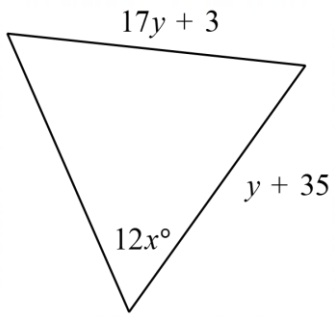
29) Find the perimeter of the triangle from #28.

A. perimeter = 27
B. perimeter = 45
C. perimeter = 51
D. perimeter = 180

For #30 – 31: use the equilateral triangle shown to the right.

30) Find x.

A. $x = 60$
B. $x = 32$
C. $x = 16$
D. $x = 5$



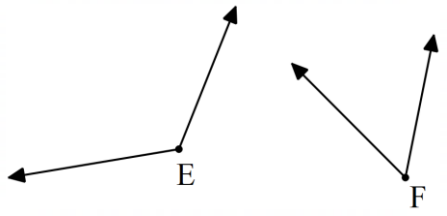
31) Find y.

A. $y = 3.18$
B. $y = 25$
C. $y = 2$
D. $y = 4$

32) Multiple Choice: What is the reason for Step 2?

Given: $\angle E$ is supplementary to $\angle F$.

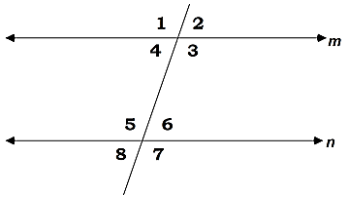
Prove: $m\angle E + m\angle F = 180°$



Statement	Reason
1. $\angle E$ is supplementary to $\angle F$.	1. Given
2. $m\angle E + m\angle F = 180°$	2.

A) If two angles form a linear pair, then they are supplementary.
B) If two angles are supplementary, then they have a sum of 180 degrees.
C) If two angles have a sum of 180 degrees, then they are supplementary.
D) If two angles are supplementary, then they form a linear pair.

For #33 – 35: Complete the proof. Use the choices below.



Given: $\angle 3 \cong \angle 5$
Prove: $m \parallel n$

Statement	Reason
1. #33	1. #34
2. $m \parallel n$	2. #35

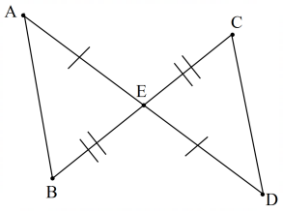
Options for #33 – 35: Select the correct statement or reason. Not all options will be used. Write the letter of your answer in proof above.

A) Given B) $m \parallel n$ C) $\angle 3 \cong \angle 5$
D) If lines are parallel, then corresponding angles are congruent.
E) If lines are parallel, then alternate interior angles are congruent.
F) If lines are parallel, then consecutive interior angles are supplementary.
G) If corresponding angles are congruent, then lines are parallel.
H) If alternate interior angles are congruent, then lines are parallel.
I) If consecutive interior angles are supplementary, then lines are parallel.

For #36 – 38: Complete the proof. Use the choices below.

Given: $\overline{BE} \cong \overline{EC}$; $\overline{AE} \cong \overline{ED}$

Prove: $\overline{AB} \cong \overline{CD}$



Statement	Reason
1) $\overline{BE} \cong \overline{EC}$; $\overline{AE} \cong \overline{ED}$	1) Given
2) $\angle AEB \cong \angle DEC$	2) **#36)**
3) $\Delta ABE \cong \Delta DCE$	3) **#37)**
4) $\overline{AB} \cong \overline{CD}$	4) **#38)**

36) Multiple Choice: Select the correct reason.

A) If lines are perpendicular, then right angles are formed.
B) If a point is a midpoint, then the segment is divided into two congruent segments.
C) If two angles are vertical, then they are congruent.
D) If a ray bisects an angle, then it is divided into two congruent angles.

37) Multiple Choice: Select the correct reason.

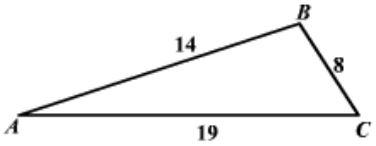
A) SSS B) SAS C) ASA
D) AAS E) HL F) CPCTC

38) Multiple Choice: Select the correct reason.

A) SSS B) SAS C) ASA
D) AAS E) HL F) CPCTC

39) Which angle is the smallest in the triangle shown to the right?

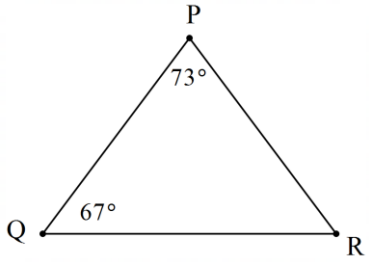
A) $\angle A$
B) $\angle B$
C) $\angle C$
D) Not enough information is given to answer this question.



40) What is the smallest side in the triangle shown to the right?

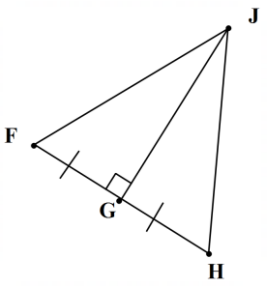
Note: The triangle might not be drawn to scale.

A) $\overline{PR}$
B) $\overline{QR}$
C) $\overline{QP}$
D) Not enough information is given to answer this question.

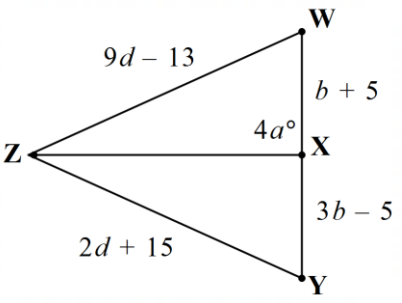


41) Which statement below is true for the diagram shown?

A) $\overline{FJ}$ is the perpendicular bisector of $\overline{GH}$.
B) $\overline{FH}$ is the perpendicular bisector of $\overline{GJ}$.
C) $\overline{JG}$ is the perpendicular bisector of $\overline{GH}$.
D) $\overline{JG}$ is the perpendicular bisector of $\overline{FH}$.



For #42 – 44, use the diagram shown, where $\overline{ZX}$ is the perpendicular bisector of $\overline{WY}$.



42) Find a.

A) $a = 90$ B) $a = 45$
C) $a = 22.5$ D) $a = 12.5$

43) Find b.

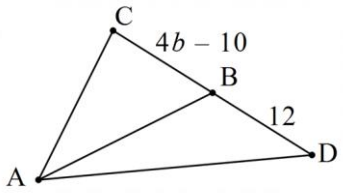
A) $b = 22.5$ B) $b = 5$
C) $b = 2.5$ D) $b = 45$

44) Find d.

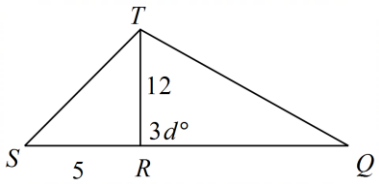
A) $d = 2$ B) $d = 4$
C) $d = 6$ D) $d = 8$

45) Find b if $\overline{AB}$ is a median.

A) $b = 5.5$
B) $b = 0.67$
C) $b = 0.5$
D) $b = 4.5$



For #46 – 48: Find the requested values if $\overline{TR}$ is an altitude.



46) Find the length of TS.

A) $TS = 5$ B) $TS = 10$
C) $TS = 12$ D) $TS = 13$

47) Find d.

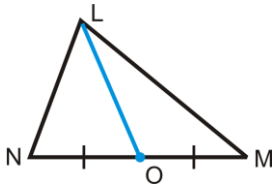
A) $d = 4$ B) $d = 15$
C) $d = 30$ D) $d = 90$

48) Find the area of ΔRST.

A) area of $\Delta RST = 17$ B) area of $\Delta RST = 25$
C) area of $\Delta RST = 30$ D) area of $\Delta RST = 60$

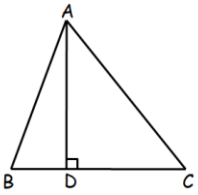
49) What is the best name for segment $\overline{LO}$?

A) altitude B) median C) midpoint D) perpendicular bisector



50) What is the best name for segment $\overline{AD}$?

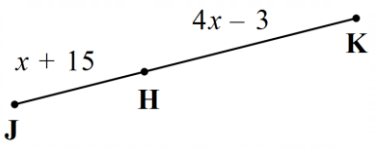
A) altitude B) median C) midpoint D) perpendicular bisector



Answers:

1) D	2) A	3) A	4) D	5) C	6) A, B, D	7) B
8) D	9 A	10) B	11) C	12) D	13) C	14) B
15) A	16) D	17) B	18) D	19) A	20) A, C	21) C
22) D	23) B	24) D	25) A	26) A	27) B, F	28) A
29) B	30) D	31) C	32) B	33) C	34) A	35) H
36) C	37) B	38) F	39) A	40) C	41) D	42) C
43) B	44) B	45) A	46) D	47) C	48) C	49) B 50) A

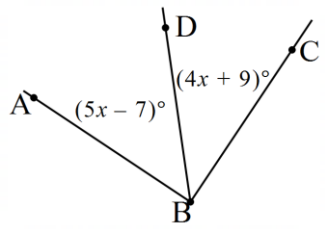
1. Find the length of HK, given that $JK = 70$.



2. $\overline{XY}$ has one endpoint located at $X(-13, 12)$ and the other endpoint at $Y\ (2, 4)$. What are the coordinates of the midpoint of XY?

3. M is the midpoint of $\overline{AB}$. Find the coordinates of the missing endpoint B if $\mathrm{M}(-3, 1)$ and $\mathrm{A}(4, -6)$.

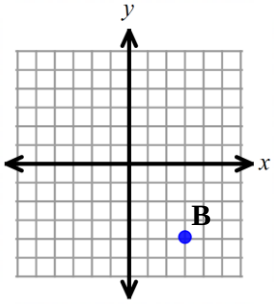
4. $\overrightarrow{DB}$ bisects $\angle ABC$. Find the measure of $\angle ABC$.



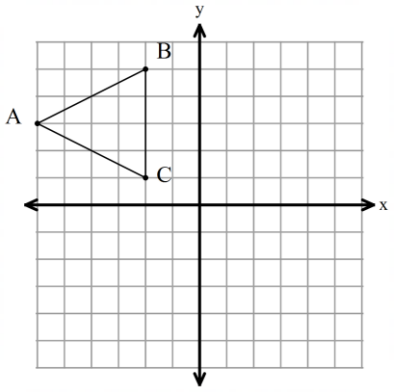
5. Given that $m\angle D = (2x + 30)°$ and $m\angle E = (3x + 40)°$. If $\angle D$ is complementary to $\angle E$, then find $m\angle E$.

6. Find the length of PQ if $P(3, -9)$ and $Q(-4, -5)$. Write your answer as a decimal rounded to one decimal place, if needed. Use the distance formula or the Pythagorean Theorem.

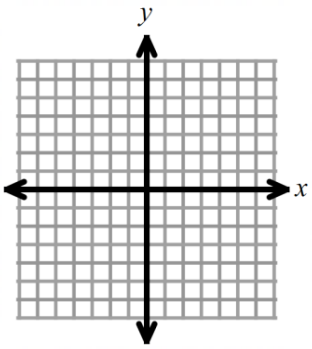
7. Find the coordinates of the image of the point $B(3, -4)$ when it is reflected across the line $x = -1$.



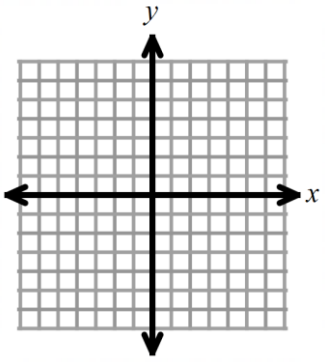
8. ΔABC is reflected across the *y*-axis. What are the coordinates of the image of B?



9. What is the image of point $P(-4,-3)$ after a translation along the vector $\langle 2,-1\rangle$?

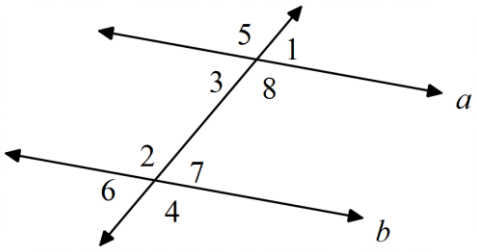


10. Given point A at $(5,4)$. If A is rotated 90 degrees counterclockwise about the origin, then what are the coordinates of A'?

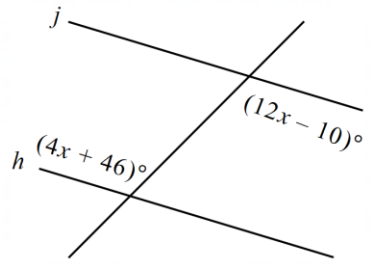


11. Given the diagram as shown, which statements below are true? **Select all that apply.**

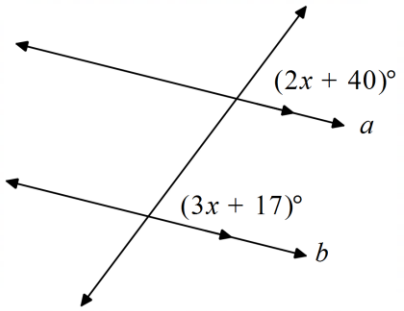
A) $\angle 2$ and $\angle 7$ are alternate interior angles.
B) $\angle 3$ and $\angle 6$ are corresponding angles.
C) $\angle 8$ and $\angle 7$ are consecutive interior angles.
D) $\angle 3$ and $\angle 7$ are alternate interior angles.



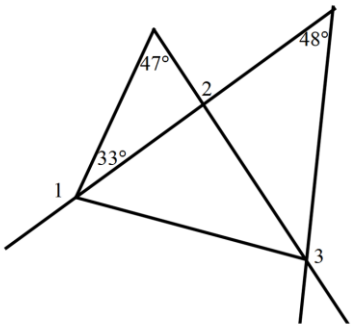
12. Find the value of *x* if $j \parallel h$.



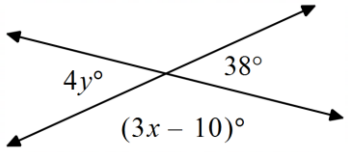
13. Solve for x if $a \parallel b$.



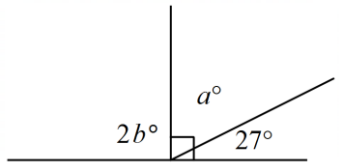
14. Find $m\angle 1$ $m\angle 2$, and $m\angle 3$ in the diagram at the right.



15. Find x and y in the diagram shown.



16. Find a and b.



17. Complete the syllogism below.

- If it snows on Thanksgiving, then Tony will build a snowman.
- If Tony builds a snowman, then he will take pictures outside.

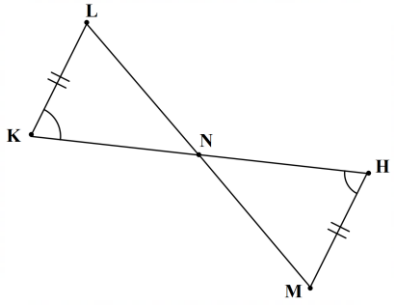
Conclusion:

18. Given that $\Delta RGN \cong \Delta PQS$, then complete statements:

$\angle G \cong$ _____; $\overline{PQ} \cong$ _____; $\angle P \cong$ _____

19. Refer to the figure to complete the congruence statement:

$\Delta KLN \cong$ _____.

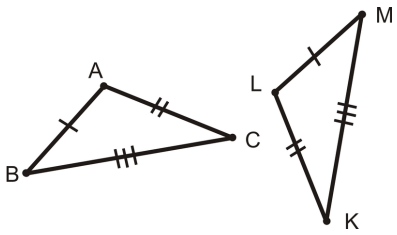


20. Which of the sets of sides below would NOT form a real triangle?

A. 3, 3, 6
B. 5, 5, 9
C. 7, 7, 7
D. 2, 8, 13

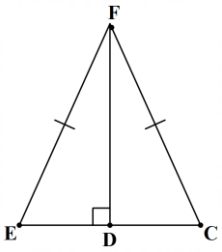
21. What postulate or theorem could be used to prove that the triangles shown are congruent?

A. SSS
B. SAS
C. ASA
D. AAS
E. HL



22. What postulate or theorem could be used to prove that the triangles shown are congruent?

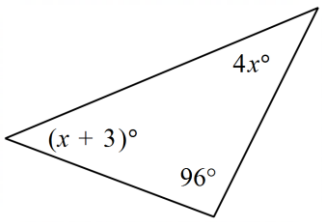
A. SSS
B. SAS
C. ASA
D. AAS
E. HL



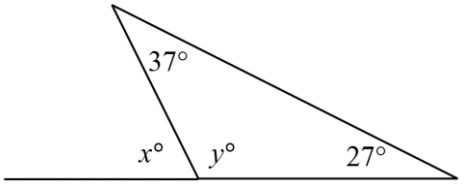
23. Write the equation of the line, in (h, k) form, that is perpendicular to $y = 3(x - 2) + 1$ and passes through $(-5, 4)$.

24. Write the equation of the line, in (h, k) form, that is parallel to $y = \frac{1}{6}(x + 4) - 2$ and passes through $(-5, 8)$.

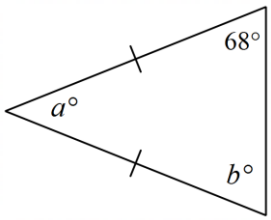
25. Find *x*.



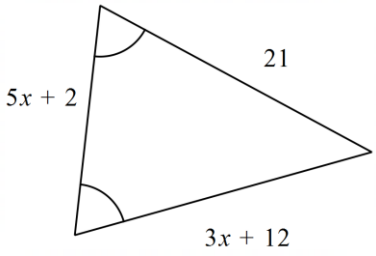
26. Find *x* and *y*.



27. Find *a* and *b* in the triangle shown.



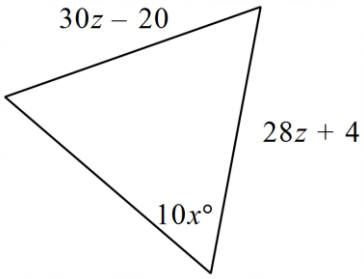
28. Find *x* in the triangle to the right.



29. Find the perimeter of the triangle from #28.

For #30 – 31: use the equilateral triangle shown to the right.

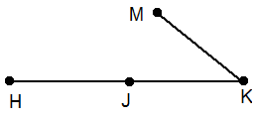
30) Find x. 31) Find z.



32) Multiple Choice: What is the reason for Step 2?

Given: $\overline{KJ} \cong \overline{JH}$

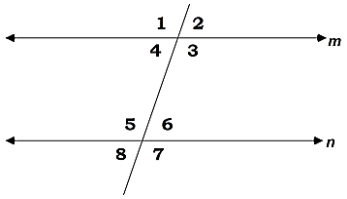
Prove: J is the midpoint of $\overline{HK}$.



1) $\overline{KJ} \cong \overline{JH}$	1) Given
2) J is the midpoint of $\overline{HK}$.	2)

A) If a point is a midpoint, then it divides a segment into two congruent segments.
B) If two segments have the same length, then they are congruent.
C) If two segments are congruent, then they have the same length.
D) If a point divides a segment into two congruent segments, then it is a midpoint.

For #33 – 35: Complete the proof. Use the choices below.



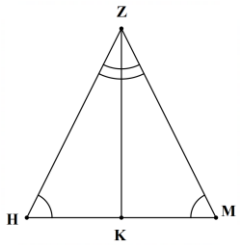
Given: $m \parallel n$
Prove: $\angle 4 \cong \angle 8$

Statement	Reason
1. #33	1. #34
2. $\angle 4 \cong \angle 8$	2. #35

Options for #33 – 35: Select the correct statement or reason. Not all options will be used. Write the letter of your answer in proof above.

A) Given B) $m \parallel n$ C) $\angle 4 \cong \angle 8$
D) If lines are parallel, then corresponding angles are congruent.
E) If lines are parallel, then alternate interior angles are congruent.
F) If lines are parallel, then consecutive interior angles are supplementary.
G) If corresponding angles are congruent, then lines are parallel.
H) If alternate interior angles are congruent, then lines are parallel.
I) If consecutive interior angles are supplementary, then lines are parallel.

For #36 – 38: Complete the proof. Use the choices below.



Given: $\angle HZK \cong \angle MZK;\ \angle H \cong \angle M$
Prove: $\overline{HK} \cong \overline{MK}$

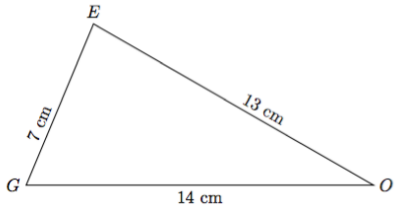
Statement	Reason
1) $\angle HZK \cong \angle MZK;\ \angle H \cong \angle M$	1) Given
2) $\overline{ZK} \cong \overline{ZK}$	2) **#36)**
3) $\Delta HKZ \cong \Delta MKZ$	3) **#37)**
4) $\overline{HK} \cong \overline{MK}$	4) **#38)**

36) Multiple Choice: Select the correct reason.
A) If lines are perpendicular, then right angles are formed.
B) If a point is a midpoint, then the segment is divided into two congruent segments.
C) Reflexive Property
D) Substitution Property

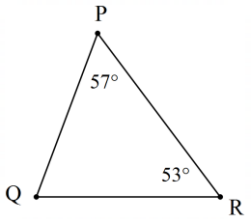
37) Multiple Choice: Select the correct reason.
A) SSS B) SAS C) ASA
D) AAS E) HL F) CPCTC

38) Multiple Choice: Select the correct reason.
A) SSS B) SAS C) ASA
D) AAS E) HL F) CPCTC

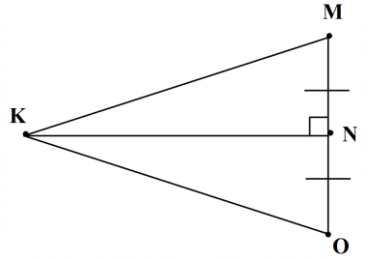
39) For the triangle to the right, list the angles from least to greatest.



40) For the triangle to the right, list the sides from least to greatest.

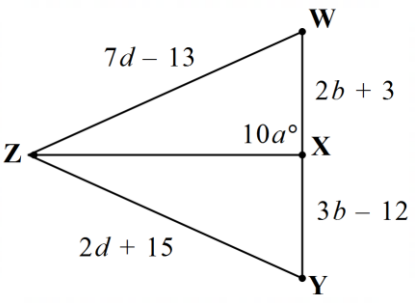


41) Complete the statement for the shape below: _____ is the perpendicular bisector of _____.



For #42 – 44, use the diagram shown, where $\overline{ZX}$ is the perpendicular bisector of $\overline{WY}$.

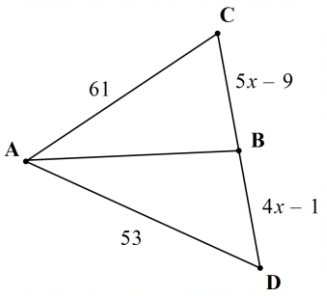
42) Find *a*.



43) Find *b*.

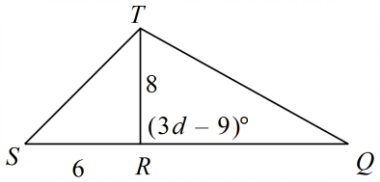
44) Find *d*.

45) Find the perimeter of ΔACD if $\overline{AB}$ is a median.



For #46 – 48: Find the requested values if $\overline{TR}$ is an altitude.

46) Find TS.



47) Find *d*.

48) Find the area of ΔRST.

49) Segment $\overline{PQ}$ is drawn from the vertex of a triangle to the midpoint of the opposite side. What type of segment is $\overline{PQ}$?

A) altitude B) median C) midpoint D) perpendicular bisector

50) Segment $\overline{JK}$ is drawn from the vertex of a triangle perpendicular to the opposite side. What type of segment is $\overline{JK}$?

A) altitude B) median C) midpoint D) perpendicular bisector