Name: _____

'C Midterm Review Questions

Directions: Select the choice that best answers each question.

1. What is the image of $R_{90°}(1, 2)$?

A. (-2, 1)
B. (-1, 2)
C. (2, -1)
D. (1, -2)

2. A triangle is dilated by a scale factor of 3 with the center of dilation at the origin. Which statement is true?

A. The area of the image is nine times the area of the original triangle.
B. The perimeter of the image is nine times the perimeter of the original triangle.
C. The slope of any side of the image is three times the slope of the corresponding side of the original triangle.
D. The measure of each angle in the image is three times the measure of the corresponding angle of the original triangle.

3. Find the coordinates of point $N(-1, 3)$ under the composite $r_{y\text{-axis}} \circ R_{90°}$.

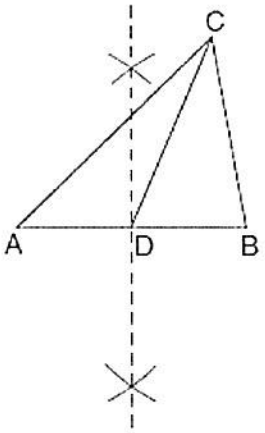
A. (1, 3)
B. (1, -3)
C. (3, 1)
D. (3, -1)

4.

The endpoints of $\overline{AB}$ are $A(3,2)$ and $B(7,1)$. If $\overline{A''B''}$ is the result of the transformation of $\overline{AB}$ under $D_2 \circ T_{-4,3}$ what are the coordinates of A'' and B''?

A. A'' (–2, 10) and B'' (6, 8)
B. A'' (–1, 5) and B'' (3, 4)
C. A'' (2, 7) and B'' (10, 5)
D. A'' (14, –2) and B'' (22, – 4)

5. In the construction shown below, $\overline{CD}$ is drawn.



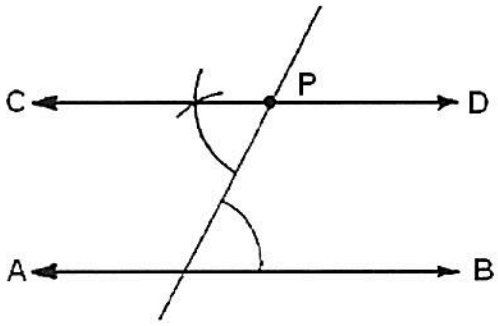
In ΔABC, $\overline{CD}$ is the

A. perpendicular bisector of side $\overline{AB}$
B. median to side $\overline{AB}$
C. altitude to side $\overline{AB}$
D. bisector of $\angle ACB$

6. If ΔABC is dilated by a scale factor of 3, which statement is true of the image $\Delta A'B'C'$?

A. $3A'B' = AB$
B. $B'C' = 3BC$
C. $m\angle A' = 3(m\angle A)$
D. $3(m\angle C') = m\angle C$

7. The accompanying diagram shows the construction of line $\overleftrightarrow{CD}$ through given point P and parallel to given line $\overleftrightarrow{AB}$. Which principle is used in the proof for this construction?

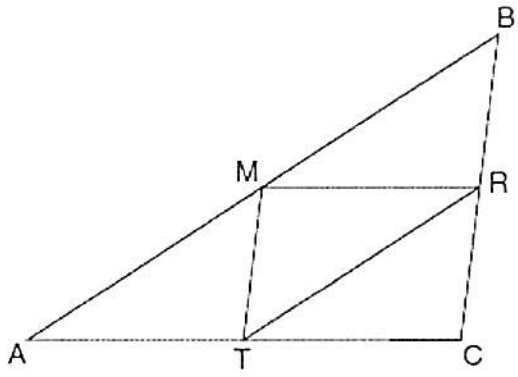


A. If two lines are parallel, then the alternate exterior angles are congruent.
B. If two lines are cut by a transversal so that a pair of alternate interior angles are congruent, then the lines are parallel.
C. If two lines are cut by a transversal so that the interior angles on the same side of the transversal are supplementary, then the lines are parallel.
D. If two lines are parallel, then the corresponding angles are congruent.

8. Which type of triangle would have its orthocenter *outside* the triangle?

A. right
B. obtuse
C. scalene
D. equilateral

9. As shown in the diagram below, M, R, and T are midpoints of the sides of ΔABC.



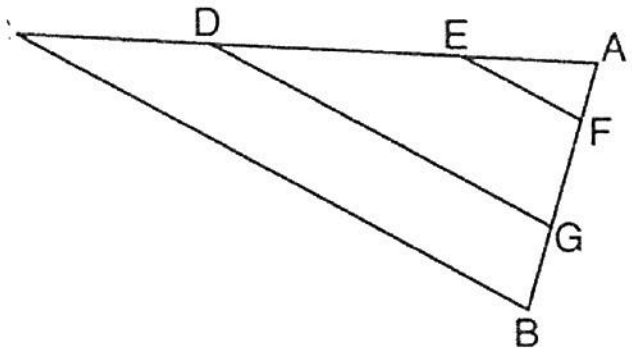
If $AB = 18$, $AC = 14$, and $BC = 10$, what is the perimeter of quadrilateral $ACRM$?

A. 35
B. 32
C. 24
D. 21

10. Quadrilateral $HYPE$ has vertices $H(2,3)$, $Y(1,7)$, $P(-2,7)$, and $E(-2,4)$. State and label the coordinates of the vertices of P'' after the composition of transformations $r_{x\text{-axis}} \circ T_{5,-3}$.

A. (3, -4)
B. (-3, 4)
C. (3, 10)
D. (3, -10)

11. In the diagram below of ΔABC, with $\overline{CDEA}$ and $\overline{BGFA}$, $\overline{EF} \parallel \overline{DG} \parallel \overline{CB}$.



Which statement is *false*?

A. $\frac{AC}{AD} = \frac{AB}{AG}$

B. $\frac{AE}{AF} = \frac{AC}{AB}$

C. $\frac{AE}{AD} = \frac{EC}{AC}$

D. $\frac{BG}{BA} = \frac{CD}{CA}$

12. Which type of triangle would have its orthocenter *on* the triangle?

A. right
B. obtuse
C. scalene
D. equilateral

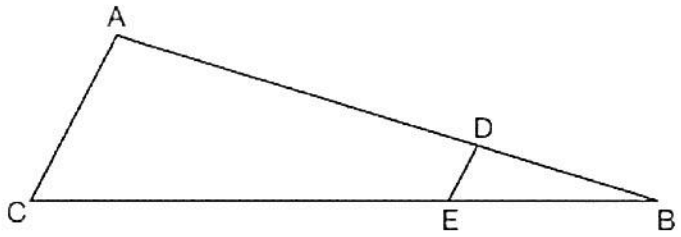
13. Given the statement: "A triangle cannot have two right angles." When the indirect method is used to prove this statement, it should be assumed that a triangle

A. has exactly one right angle
B. has two right angles
C. does not have a right angle
D. does not have two right angles

17. Which is *not* true about congruent triangles?

A. Corresponding angles are congruent.
B. Corresponding sides are congruent.
C. They are also similar.
D. They are different sizes.

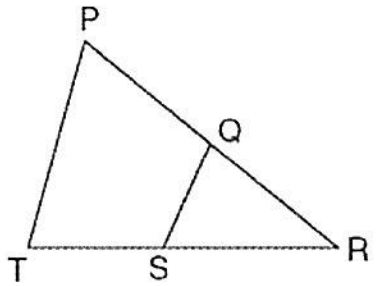
14. In the diagram of ΔABC, points D and E are on $\overline{AB}$ and $\overline{CB}$, respectively, such that $\overline{AC} \parallel \overline{DE}$.



If $AD = 24$, $DB = 12$, and $DE = 4$, what is the length of $\overline{AC}$?

A. 8
B. 12
C. 16
D. 72

15. In the diagram below of ΔPRT, Q is a point on $\overline{PR}$, S is a point on $\overline{TR}$, $\overline{QS}$ is drawn, and $\angle RPT \cong \angle RSQ$.



Which reason justifies the conclusion that $\Delta PRT \sim \Delta SRQ$?

A. AA
B. ASA
C. SAS
D. SSS

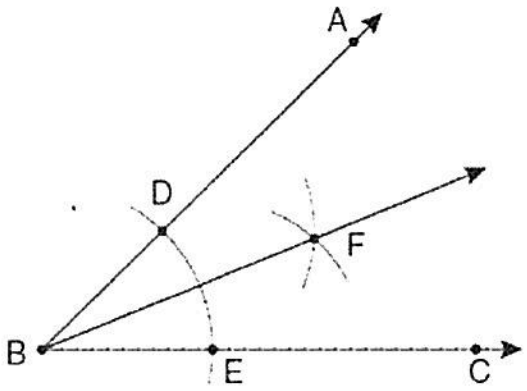
16. What is the image of point (-3,-1) under a reflection in the origin?

A. (3,1)
B. (-3,1)
C. (1,3)
D. (-1,-3)

21. The degree measures of two vertical angles are $2x$ and $x + 3$. The value of x is

A. 29
B. 59
C. 3
D. 4

18. The diagram below shows the construction of the bisector of $\angle ABC$.



Which statement is *not* true?

A. $m\angle EBF = \frac{1}{2} m\angle ABC$

B. $m\angle DBF = \frac{1}{2} m\angle ABC$

C. $m\angle EBF = m\angle ABC$

D. $m\angle DBF = m\angle EBF$

19. The best description of a dilation of a figure is

A. an enlargement or a reduction of the figure

B. a slide of the figure

C. a turning of the figure about some fixed point

D. a mirror image of the figure

20. Which letter has both point and line symmetry?

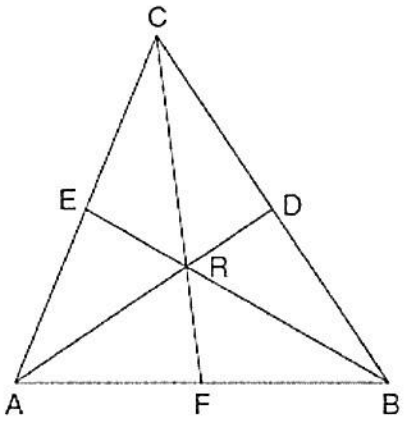
A. **Z**

B. **T**

C. **C**

D. **H**

22. In ΔABC shown below, medians $\overline{AD}$, $\overline{BE}$, and $\overline{CF}$ intersect at point R.



If $CR = 24$ and $RF = 2x - 6$, what is the value of x?

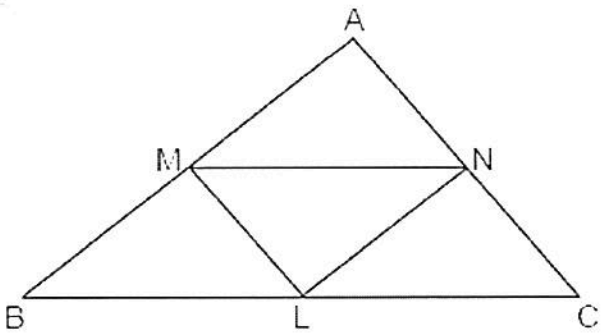
A. 9

B. 12

C. 15

D. 27

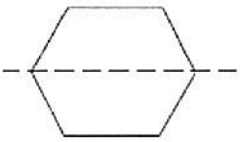
23. In ΔABC shown below, L is the midpoint of $\overline{BC}$, M is the midpoint of $\overline{AB}$, and N is the midpoint of $\overline{AC}$.

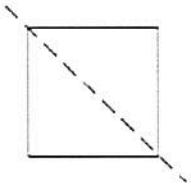


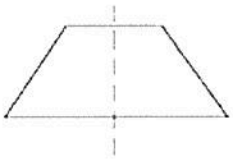
If $MN = 8$, $ML = 5$, and $NL = 6$, the perimeter of trapezoid $BMNC$ is

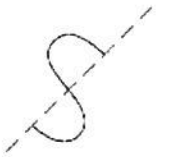
A. 35
B. 31
C. 28
D. 26

24. Which diagram shows a dotted line that is *not* a line of symmetry?

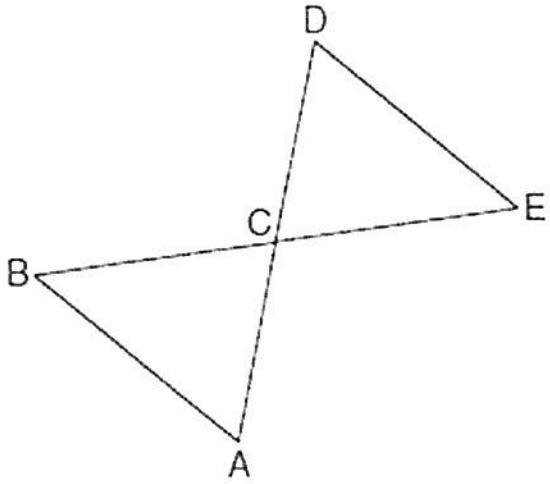
A. 

C. 

B. 

D. 

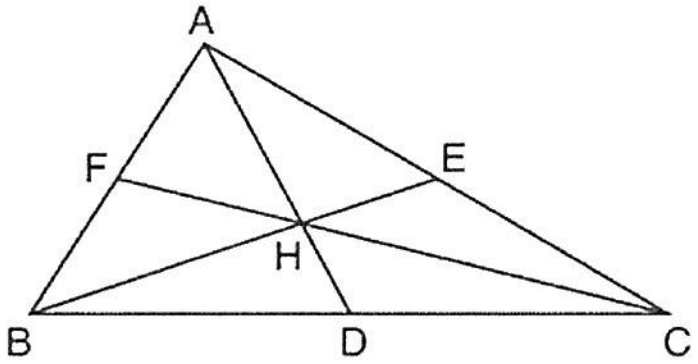
25. Given:
$\overline{BE}$ and $\overline{AD}$ intersect at point C
$\overline{BC} \cong \overline{EC}$
$\overline{AC} \cong \overline{DC}$
$\overline{AB}$ and $\overline{DE}$ are drawn



Which of the following is the correct way to prove $\Delta ABC \cong \Delta DEC$?

A. Hypotenuse, Leg
B. Angle, Side, Angle
C. Side, Angle, Side
D. Side, Side, Side

26. In the diagram below of ΔABC, point H is the intersection of the three medians.



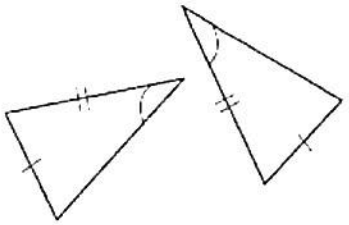
If $\overline{DH}$ measures 2.4 centimeters, what is the length, in centimeters, of $\overline{AD}$?

A. 3.6
B. 4.8
C. 7.2
D. 9.6

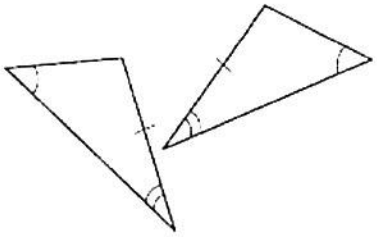
27. For a triangle, which two points of concurrence could be located outside the triangle?

A. incenter and centroid
B. centroid and orthocenter
C. incenter and circumcenter
D. circumcenter and orthocenter

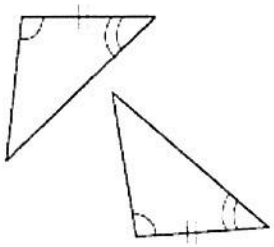
28. In the diagram below, four pairs of triangles are shown. Congruent corresponding parts are labeled in each pair.



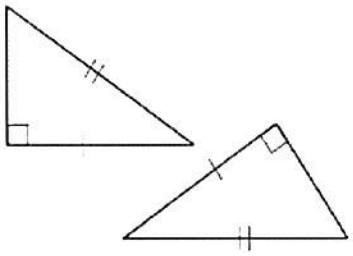
A



C



B

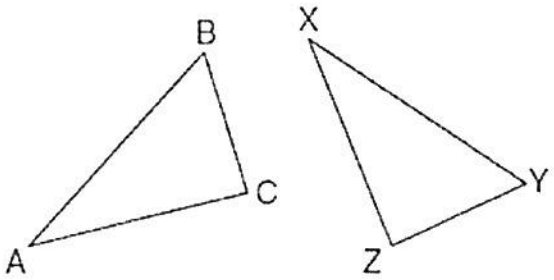


D

Using only the information given in the diagrams, which pair of triangles can *not* be proven congruent?

A. *A*
B. *B*
C. *C*
D. *D*

29. In the diagram below, $\Delta ABC \cong \Delta XYZ$.



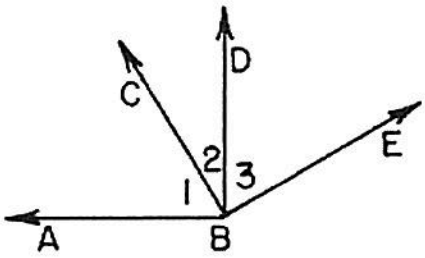
Which two statements identify corresponding congruent parts for these triangles?

A. $\overline{AB} \cong \overline{XY}$ and $\angle C \cong \angle Y$
B. $\overline{AB} \cong \overline{YZ}$ and $\angle C \cong \angle X$
C. $\overline{BC} \cong \overline{XY}$ and $\angle A \cong \angle Y$
D. $\overline{BC} \cong \overline{YZ}$ and $\angle A \cong \angle X$

30. Point A is located at (4,−7). The point is reflected in the x-axis. Its image is located at

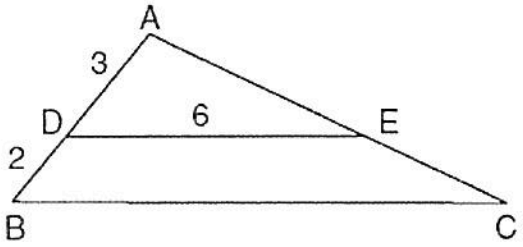
A. (−4,7)
B. (−4,−7)
C. (4,7)
D. (7,−4)

31. In the accompanying diagram, $\overrightarrow{BA} \perp \overrightarrow{BD}$ and $\overrightarrow{BC} \perp \overrightarrow{BE}$. Which statement is true?



A. $m\angle 1 = m\angle 3$
B. $m\angle 1 > m\angle 3$
C. $m\angle 1 + m\angle 2 + m\angle 3 = 180$
D. $m\angle 1 + m\angle 2 = m\angle 3$

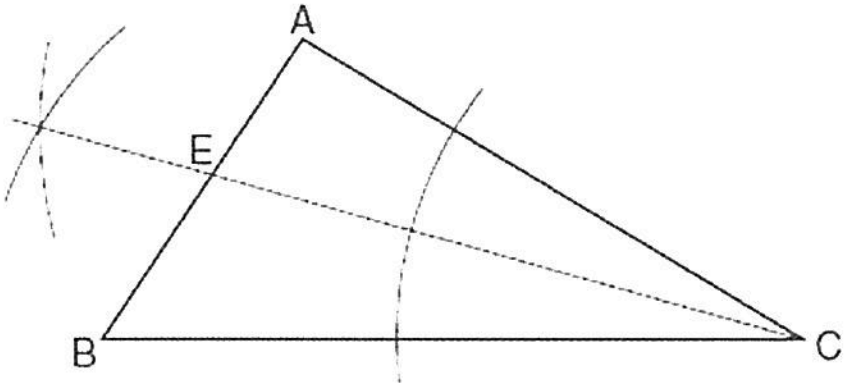
32. In the diagram of ΔABC below, $\overline{DE} \parallel \overline{BC}$, $AD = 3$, $DB = 2$, and $DE = 6$.



What is the length of $\overline{BC}$?

A. 12
B. 10
C. 8
D. 4

33. A student used a compass and a straightedge to construct $\overline{CE}$ in ΔABC as shown below.



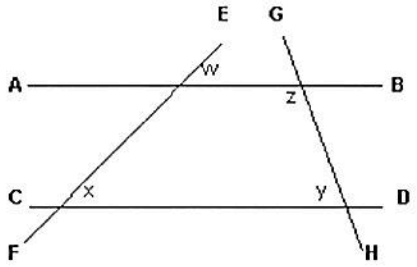
Which statement must always be true for this construction?

A. $\angle CEA \cong \angle CEB$
B. $\angle ACE \cong \angle BCE$
C. $\overline{AE} \cong \overline{BE}$
D. $\overline{EC} \cong \overline{AC}$

34. Which transformation would *not* always produce an image that would be congruent to the original figure?

A. translation
B. dilation
C. rotation
D. reflection

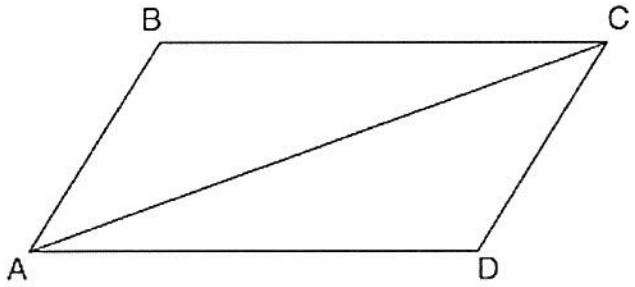
35. In the diagram, $\overleftrightarrow{AB}$, $\overleftrightarrow{CD}$, $\overleftrightarrow{EF}$, and $\overleftrightarrow{GH}$ are straight lines.



If $m\angle w = 30$, $m\angle x = 30$, and $m\angle z = 120$, find $m\angle y$.

A. 15
B. 30
C. 60
D. 110

36. Given that *ABCD* is a parallelogram, a student wrote the proof below to show that a pair of its opposite angles are congruent.



Statement	Reason
1. ABCD is a parallelogram.	1. Given
2. $\overline{BC} \cong \overline{AD}$ $\overline{AB} \cong \overline{DC}$	2. Opposite sides of a parallelogram are congruent.
3. $\overline{AC} \cong \overline{CA}$	3. Reflexive Postulate of Congruency
4. $\triangle ABC \cong \triangle CDA$	4. Side-Side-Side
5. $\angle B \cong \angle D$	5. _____

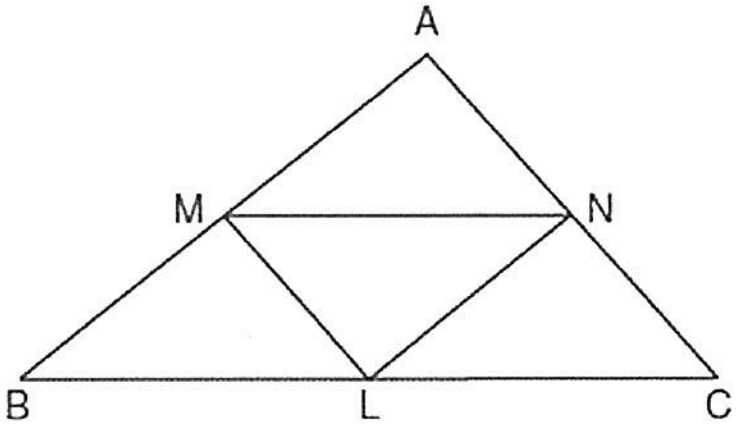
What is the reason justifying that $\angle B \cong \angle D$?

A. Opposite angles in a quadrilateral are congruent.
B. Parallel lines have congruent corresponding angles.
C. Corresponding parts of congruent triangles are congruent.
D. Alternate interior angles in congruent triangles are congruent.

37. When the point (2, -5) is reflected in the *x*-axis, what are the coordinates of its image?

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

38. In ΔABC shown below, L is the midpoint of $\overline{BC}$, M is the midpoint of $\overline{AB}$, and N is the midpoint of $\overline{AC}$.



If $MN = 8$, $ML = 5$, and $NL = 6$, the perimeter of trapezoid $BMNC$ is

A. 26
B. 28
C. 30
D. 35

39. Under a dilation with respect to the origin, the image of $P(-15,6)$ is $P'(-5,2)$. What is the constant of dilation?

A. -4
B. $\frac{1}{3}$
C. 3
D. 10

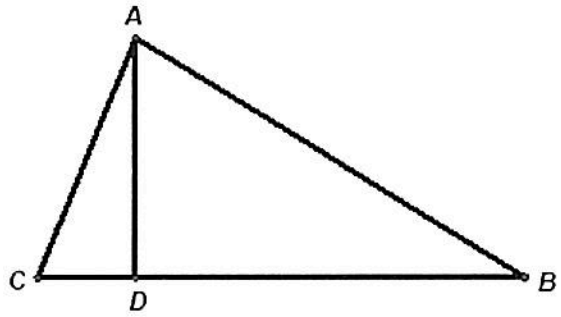
40. The coordinates of point P are (7,1). What are the coordinates of the image of P after $R_{90°}$ about the origin?

A. (1,7)
B. (–7,–1)
C. (1,–7)
D. (–1,7)

41. A translation moves $P(3,5)$ to $P'(6,1)$. What are the coordinates of the image of point (-3,-5) under the same translation?

A. (0,-9)
B. (-5,-3)
C. (-6,-1)
D. (-6,-9)

42. In the diagram below, $\overline{AD}$ is perpendicular to $\overline{CB}$.



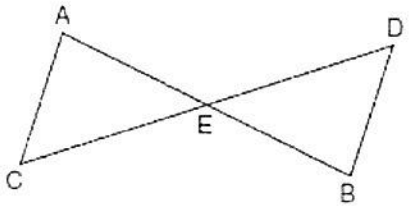
Which of the following statements must be true?

A. $\overline{AD}$ is a median.
B. $\overline{AD}$ is an altitude.
C. $\overline{AD} \cong \overline{BC}$
D. $m\angle ADC > m\angle ADB$

43. Which point is the intersection of the altitudes of a triangle?

A. orthocenter
B. centroid
C. incenter
D. circumcenter

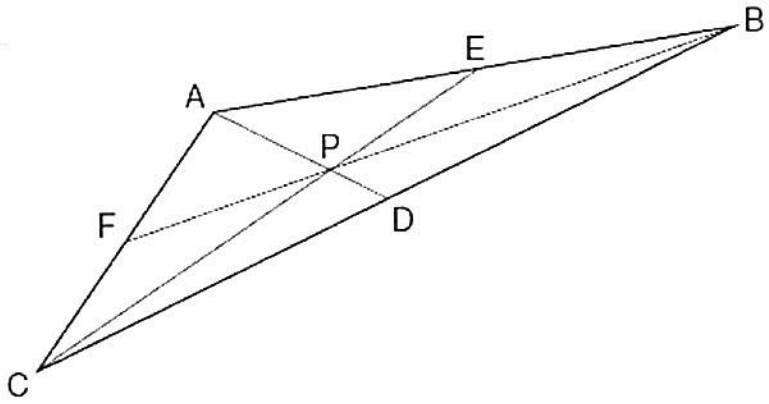
44. In the diagram below, $\Delta AEC \cong \Delta BED$:



Which statement is *not* always true?

A. $\overline{AC} \cong \overline{BD}$
B. $\overline{CE} \cong \overline{DE}$
C. $\angle EAC \cong \angle EBD$
D. $\angle ACE \cong \angle DBE$

45. In the diagram below of ΔABC, $\overline{AE} \cong \overline{BE}$, $\overline{AF} \cong \overline{CF}$, and $\overline{CD} \cong \overline{BD}$.

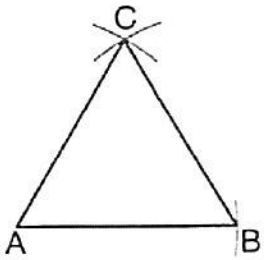


Point P must be the

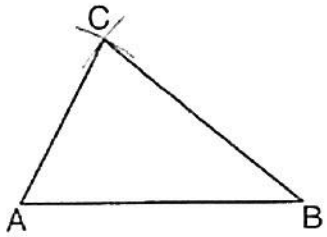
A. centroid
B. circumcenter
C. incenter
D. orthocenter

46. Which diagram represents a correct construction of equilateral ΔABC, given side $\overline{AB}$?

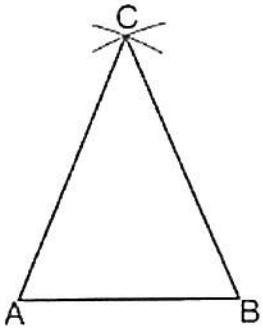
A.



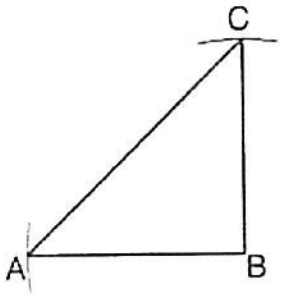
C.



B.



D.



47. The circumcenter of a triangle can be located by finding the intersection of the:

A. altitudes
B. medians
C. perpendicular bisectors of the three sides
D. angle bisectors

48. ΔABC is similar to ΔDEF. The ratio of the length of $\overline{AB}$ to the length of $\overline{DE}$ is 3:1. Which ratio is also equal to 3:1?

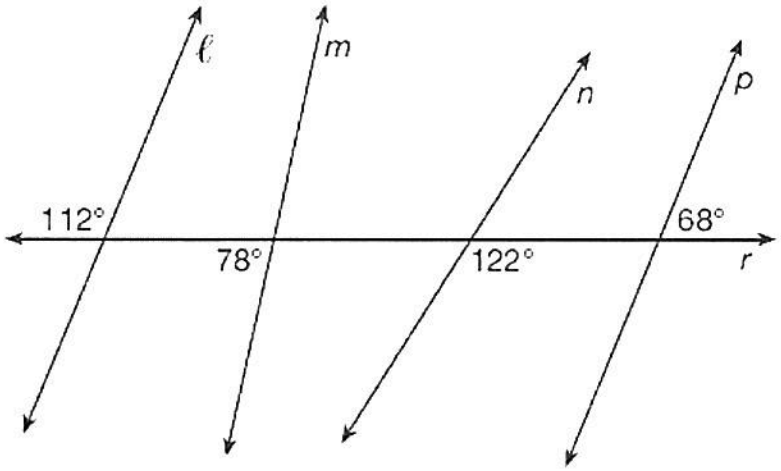
A. $\frac{m\angle A}{m\angle D}$

B. $\frac{m\angle B}{m\angle F}$

C. $\frac{\text{area of } \Delta ABC}{\text{area of } \Delta DEF}$

D. $\frac{\text{perimeter of } \Delta ABC}{\text{perimeter of } \Delta DEF}$

49. In the diagram below, lines l, m, n, and p intersect line r.



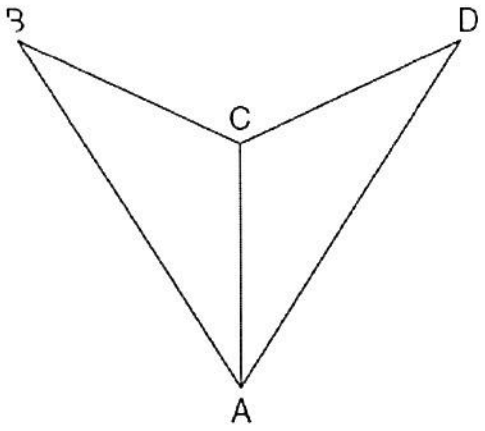
Which statement is true?

A. $l \parallel n$
B. $l \parallel p$
C. $m \parallel p$
D. $m \parallel n$

50. What are the coordinates of point (2,-3) after it is reflected over the x-axis?

A. (2,3)
B. (-2,3)
C. (-2,-3)
D. (-3,2)

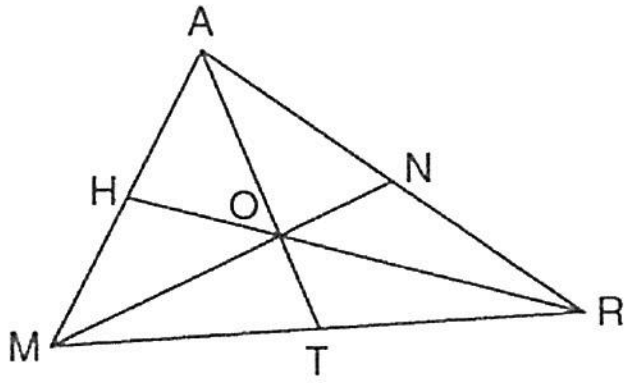
51. As shown in the diagram below, $\overline{AC}$ bisects $\angle BAD$ and $\angle B \cong \angle D$.



Which method could be used to prove $\Delta ABC \cong \Delta ADC$?

A. SSS
B. AAA
C. SAS
D. AAS

52. In the diagram below of ΔMAR, medians $\overline{MN}$, $\overline{AT}$, and $\overline{RH}$ intersect at O.



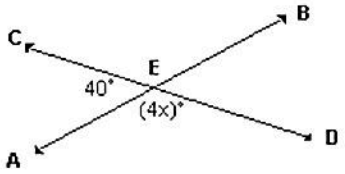
If $TO = 10$, what is the length of $\overline{AT}$?

A. 30
B. 25
C. 20
D. 15

53. Which transformation represents a dilation?

A. $(8,4) \rightarrow (11,7)$
B. $(8,4) \rightarrow (-8,4)$
C. $(8,4) \rightarrow (-4,-8)$
D. $(8,4) \rightarrow (4,2)$

54. In the diagram, lines $\overleftrightarrow{AB}$ and $\overleftrightarrow{CD}$ intersect at E.



If $m\angle AEC = 40$ and $m\angle DEA = 4x$, what is the value of x?

A. 12.5
B. 35
C. 70
D. 10

55. When ΔABC is dilated by a scale factor of 2, its image is $\Delta A'B'C'$. Which statement is true?

A. $\overline{AC} \cong \overline{A'C'}$
B. $\angle A \cong \angle A'$
C. perimeter of ΔABC = perimeter of $\Delta A'B'C'$
D. 2(area of ΔABC) = area of $\Delta A'B'C'$

56. Which condition does *not* prove that two triangles are congruent?

A. SSS ≅ SSS
B. SSA ≅ SSA
C. SAS ≅ SAS
D. ASA ≅ ASA

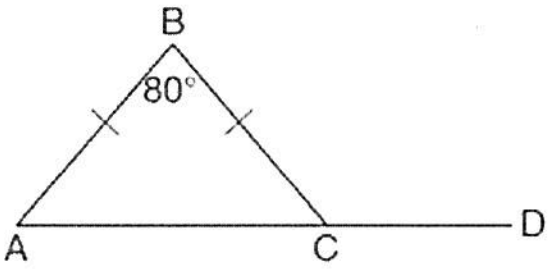
57. When the transformation $T_{2,-1}$ is performed on point A, its image is point $A'(-3, 4)$. What are the coordinates of A?

A. $(5,-5)$
B. $(-5,5)$
C. $(-1,3)$
D. $(-6,-4)$

58. The measure of an angle is represented by x. The measure of the complement of this angle can be represented as

A. $(90 - x)°$
B. $(x - 90)°$
C. $(180 - x)°$
D. $(x - 180)°$

59. In the diagram below of isosceles ΔABC, the measure of vertex angle B is 80°. If $\overline{AC}$ extends to point D, what is m$\angle BCD$?

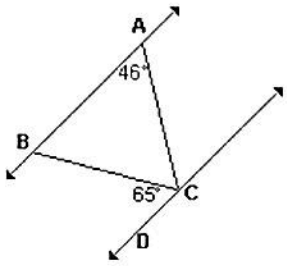


A. 50
B. 80
C. 100
D. 130

60. In ΔABC, m$\angle CAB = 2x$ and m$\angle ACB = x + 30$. If $\overline{AB}$ is extended through point B to point D, m$\angle CBD = 5x - 50$. What is the value of x?

A. 25
B. 30
C. 40
D. 46

61. In the diagram, line $\overleftrightarrow{AB}$ is parallel to line $\overleftrightarrow{CD}$, m$\angle BAC = 46$, and m$\angle BCD = 65$.



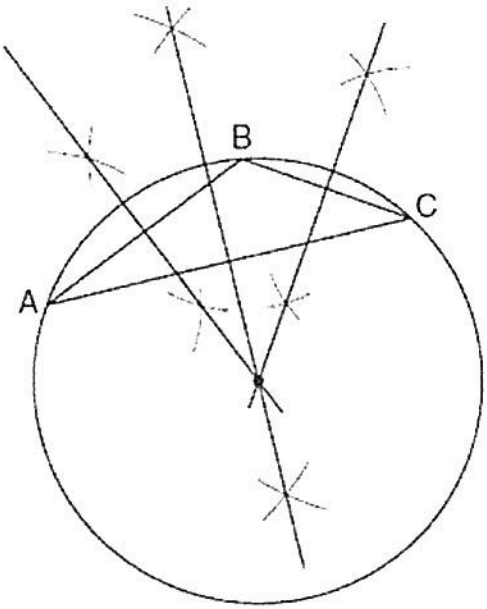
Find the measure of $\angle ACB$.

A. 11
B. 69
C. 115
D. 161

62. What is the image of the point (2,−3) after the transformation $r_{y\text{-axis}}$?

A. (2,3)
B. (−2,−3)
C. (−2,3)
D. (−3,2)

63. The diagram below shows the construction of the center of the circle circumscribed about ΔABC.



This construction represents how to find the intersection of

A. the angle bisectors of ΔABC
B. the medians to the sides of ΔABC
C. the altitudes to the sides of ΔABC
D. the perpendicular bisectors of the sides of ΔABC

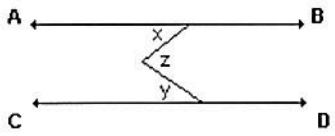
64. The center of a circle with an inscribed triangle is called the:

A. orthocenter
B. circumcenter
C. incenter
D. centroid

65. If triangle GMK is similar to triangle DRS, which pair of angles are congruent?

A. $\angle G \cong \angle D$
B. $\angle M \cong \angle S$
C. $\angle K \cong \angle R$
D. $\angle D \cong \angle M$

66. In the diagram, $\overleftrightarrow{AB} \parallel \overleftrightarrow{CD}$, $m\angle x = 50$, and $m\angle y = 60$.



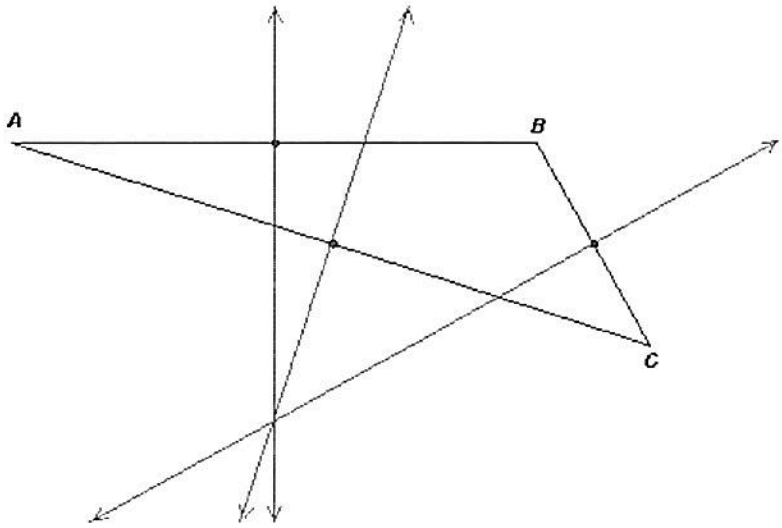
What is $m\angle z$?

A. 70
B. 80
C. 100
D. 110

67. Which transformation would result in the perimeter of a triangle being different from the perimeter of its image?

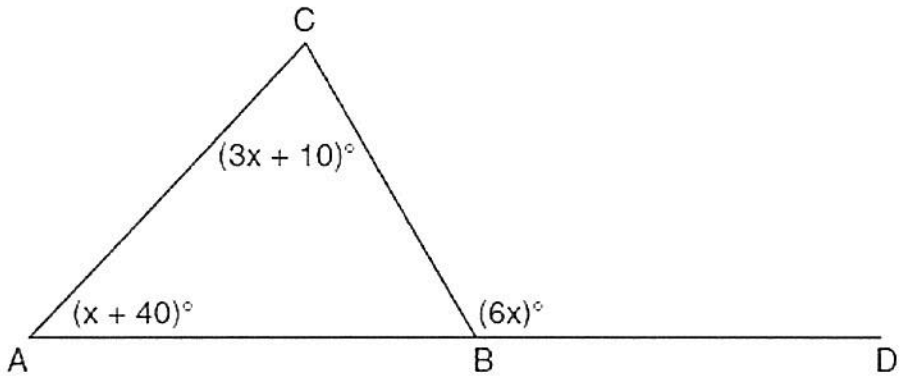
A. $(x,y) \rightarrow (y,x)$
B. $(x,y) \rightarrow (x,-y)$
C. $(x,y) \rightarrow (4x,4y)$
D. $(x,y) \rightarrow (x+2,y-5)$

68. In the diagram of ΔABC shown below, name the intersection of the three lines and the type of line shown in red.



A. Orthocenter, created by the altitudes
B. Incenter, created by the angle bisectors
C. Centroid, created by the medians
D. Circumcenter, created by the perpendicular bisectors

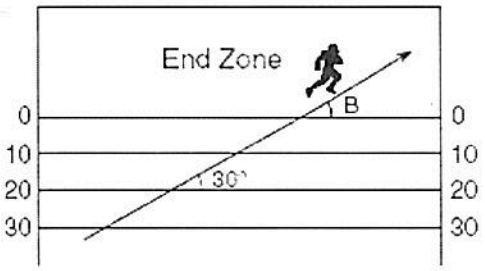
69. In the diagram of ΔABC below, $\overline{AB}$ is extended to point D.



If $m\angle CAB = x + 40$, $m\angle ACB = 3x + 10$, and $m\angle CBD = 6x$, what is $m\angle CAB$?

A. 13
B. 25
C. 53
D. 65

70. The accompanying diagram shows a football player crossing the 20-yard line at an angle of 30° and continuing along the same path.



What is the measure of angle *B*, where the player crosses into the end zone?

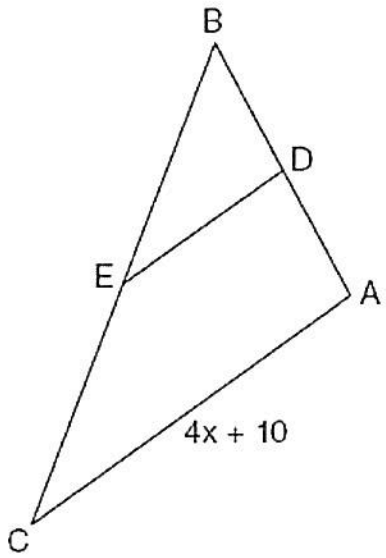
A. 30°
B. 60°
C. 150°
D. 180°

71. In the accompanying diagram, line a intersects line b.

What is the value of x?

A. -10
B. 5
C. 10
D. 90

72. In the diagram below of ΔABC, D is the midpoint of $\overline{AB}$, and E is the midpoint of $\overline{BC}$.



If $AC = 4x + 10$, which expression represents DE?

A. $x + 2.5$
B. $2x + 5$
C. $2x + 10$
D. $8x + 20$

73. The lengths of two sides of a triangle are 7 and 11. Which inequality represents all possible values for x, the length of the third side of the triangle?

A. $4 \leq x \leq 18$
B. $4 < x \leq 18$
C. $4 \leq x < 18$
D. $4 < x < 18$

77. If two sides of a triangle have lengths of 4 and 10, the third side could be

A. 8
B. 2
C. 16
D. 4

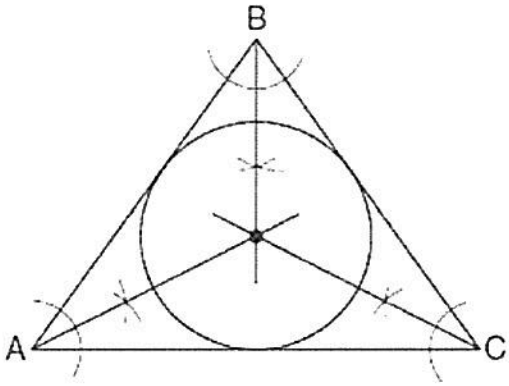
74. The sides of a triangle are 8, 12, and 15. The longest side of a similar triangle is 18. What is the ratio of the perimeter of the smaller triangle to the perimeter of the larger triangle?

A. 2:3
B. 4:9
C. 5:6
D. 25:36

75. The incenter of a triangle can be located by finding the intersection of the:

A. altitudes
B. medians
C. perpendicular bisectors of the three sides
D. angle bisectors

76. Which geometric principle is used in the construction shown below?



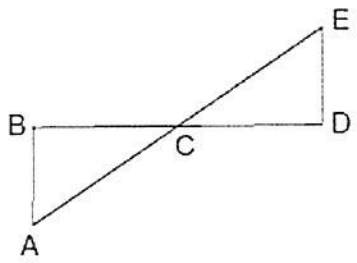
A. The intersection of the angle bisectors of a triangle is the center of the inscribed circle.
B. The intersection of the angle bisectors of a triangle is the center of the circumscribed circle.
C. The intersection of the perpendicular bisectors of the sides of a triangle is the center of the inscribed circle.
D. The intersection of the perpendicular bisectors of the sides of a triangle is the center of the circumscribed circle.

80. When writing a geometric proof, which angle relationship could be used alone to justify that two angles are congruent?

A. supplementary angles
B. linear pair of angles
C. adjacent angles
D. vertical angles

78. Given:

- $\overline{AE}$ bisects $\overline{BD}$ at C
- $\overline{AB}$ and $\overline{DE}$ are drawn
- $\angle ABC \cong \angle EDC$



Which statement is needed to prove $\Delta ABC \cong \Delta EDC$ using ASA?

A. $\angle ABC$ and $\angle EDC$ are right angles.
B. $\overline{BD}$ bisects $\overline{AE}$ at C.
C. $\angle BCA \cong \angle DCE$
D. $\angle DEC \cong \angle BAC$

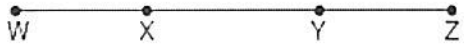
79. Two figures are congruent if they have:

I. congruent angles
II. congruent sides
III. right angles
IV. symmetry

Which makes the statement true?

A. I, only
B. II, only
C. I and II
D. III and IV

81. In the diagram of $\overline{WXYZ}$ below, $\overline{WY} \cong \overline{XZ}$.



Which reasons can be used to prove $\overline{WX} \cong \overline{YZ}$?

A. reflexive property and addition postulate
B. reflexive property and subtraction postulate
C. transitive property and addition postulate
D. transitive property and subtraction postulate

82. Which is the point of intersection of the medians of a triangle?

A. orthocenter
B. centroid
C. incenter
D. circumcenter

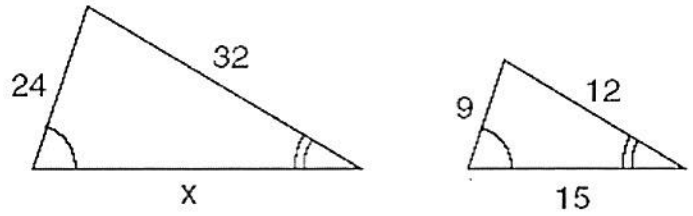
83. The sides of a triangle measure 9, 15, and 18. If the shortest side of a similar triangle measures 6, find the length of the longest side of this triangle.

A. 5
B. 10
C. 12
D. 15

84. What are the coordinates of P', the image of point $P(x, y)$ after translation $T_{4,4}$?

A. $(x - 4, y - 4)$
B. $(x + 4, y + 4)$
C. $(4x, 4y)$
D. $(4, 4)$

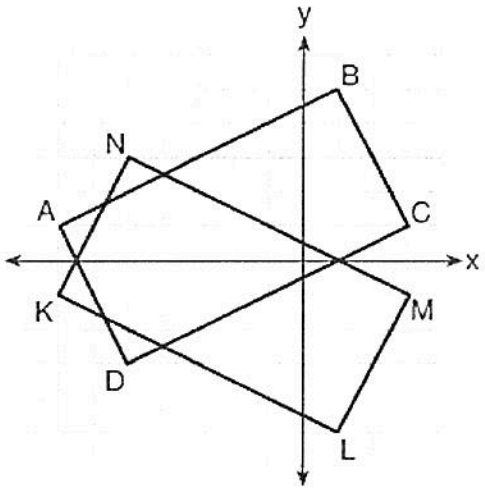
85. The accompanying diagram shows two similar triangles.



Which proportion could be used to solve for x?

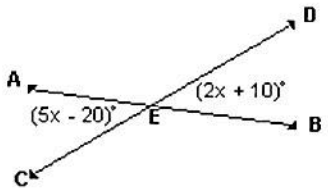
A. $\frac{x}{24} = \frac{9}{15}$
B. $\frac{24}{9} = \frac{15}{x}$
C. $\frac{32}{x} = \frac{12}{15}$
D. $\frac{32}{12} = \frac{15}{x}$

86. On the set of axes below, rectangle $ABCD$ can be proven congruent to rectangle $KLMN$ using which transformation?



A. rotation
B. translation
C. reflection over the x-axis
D. reflection over the y-axis

87. In the diagram, lines $\overleftrightarrow{AB}$ and $\overleftrightarrow{CD}$ intersect at E, $m\angle AEC = 5x - 20$, and $m\angle DEB = 2x + 10$.



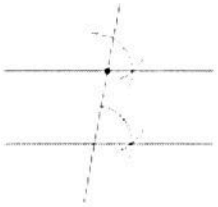
Find the value of x.

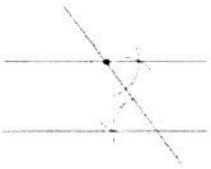
A. 10
B. 14.3
C. 16
D. 271.4

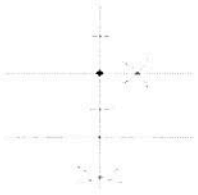
88. The center of an incircle is called the:

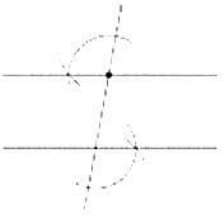
A. orthocenter
B. circumcenter
C. incenter
D. centroid

89. Which construction of parallel lines is justified by the theorem "If two lines are cut by a transversal to form congruent alternate interior angles, then the lines are parallel"?

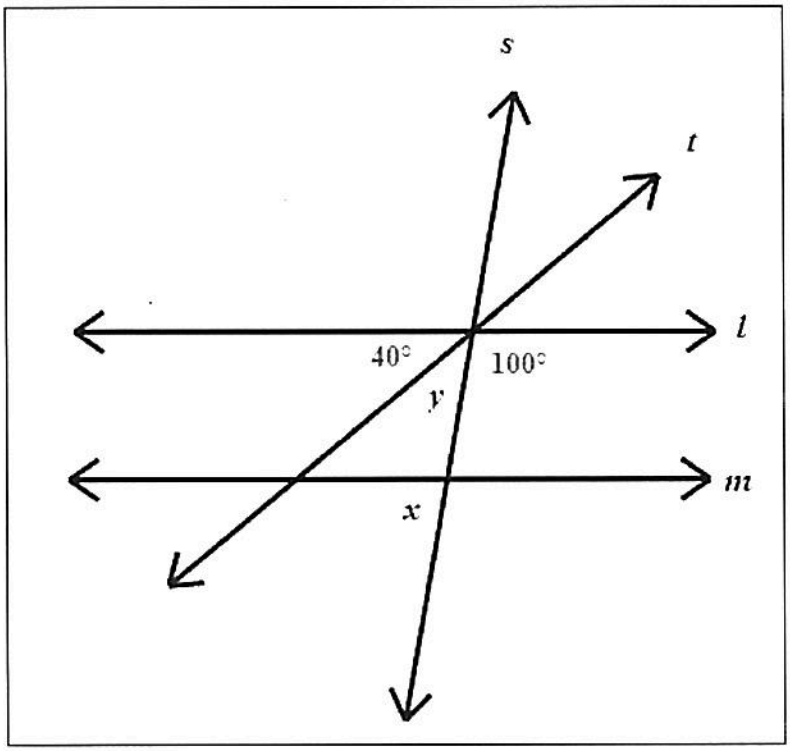
A. 

C. 

B. 

D. 

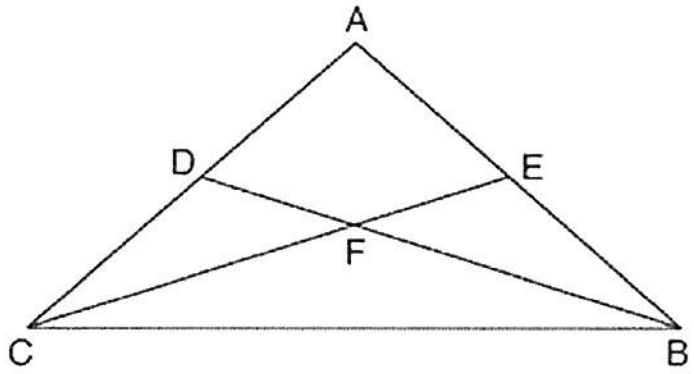
90. Parallel lines l and m are cut by transversals s and t to form the diagram below.



What is the value of x?

A. 40°
B. 80°
C. 120°
D. 140°

91. In ΔABC shown below with $\overline{ADC}$, $\overline{AEB}$, $\overline{CFE}$ and $\overline{BFD}$, $\Delta ACE \cong \Delta ABD$.



Which statement must be true?

A. $\angle ACF \cong \angle BCF$
B. $\angle DAE \cong \angle DFE$
C. $\angle BCD \cong \angle ABD$
D. $\angle AEF \cong \angle ADF$

92. Triangle ABC is drawn in Quadrant III. If ΔABC is reflected in the y-axis, its image will lie in Quadrant

A. I
B. II
C. III
D. IV

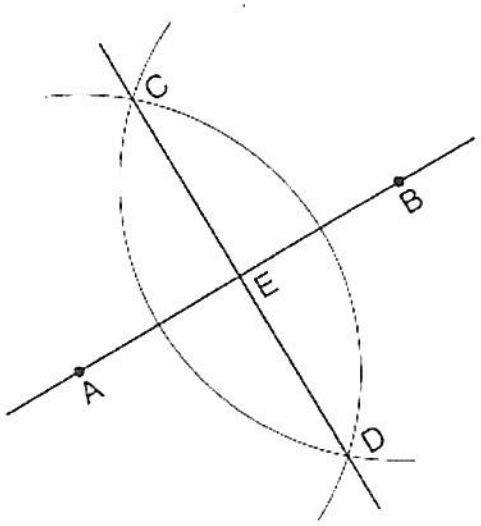
93. Which is *not* a property of all similar triangles?

A. The corresponding angles are congruent.
B. The corresponding sides are congruent.
C. The perimeters are in the same ratio as the corresponding sides.
D. The altitudes are in the same ratio as the corresponding sides.

94. The coordinates of ΔJRB are $J(1,-2)$, $R(-3,6)$, and $B(4,5)$. What are the coordinates of the vertices of its image after the transformation $T_{2,-1} \circ r_{y\text{-axis}}$?

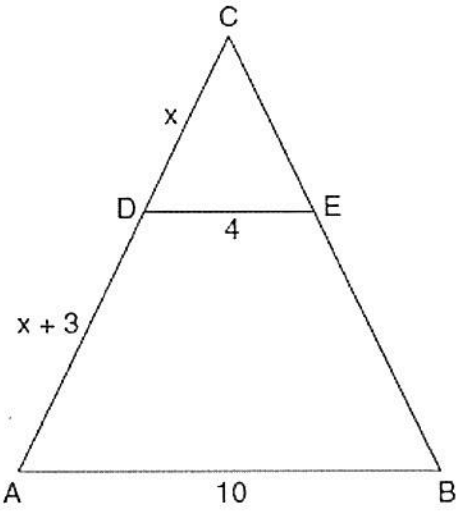
A. (3,1), (-1,-7), (6,-6)
B. (3,-3), (-1,5), (6,4)
C. (1,-3), (5,5), (-2,4)
D. (-1,-2), (3,6), (-4,5)

95. Based on the construction below, which conclusion is *not* always true?



A. $\overline{AB} \perp \overline{CD}$
B. $AB = CD$
C. $AE = EB$
D. $CE = DE$

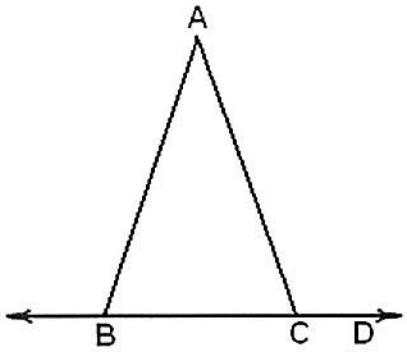
96. In the diagram below of ΔABC, $\overline{CDA}$, $\overline{CEB}$, $\overline{DE} \parallel \overline{AB}$, $DE = 4$, $CB = 10$, $CD = x$, and $DA = x + 3$.



What is the value of x?

A. 0.5
B. 2
C. 5.5
D. 6

97. In the accompanying diagram, $\overleftrightarrow{BCD}$, $\overline{AB} \cong \overline{AC}$, and $m\angle A = 40$. What is $m\angle ACD$?

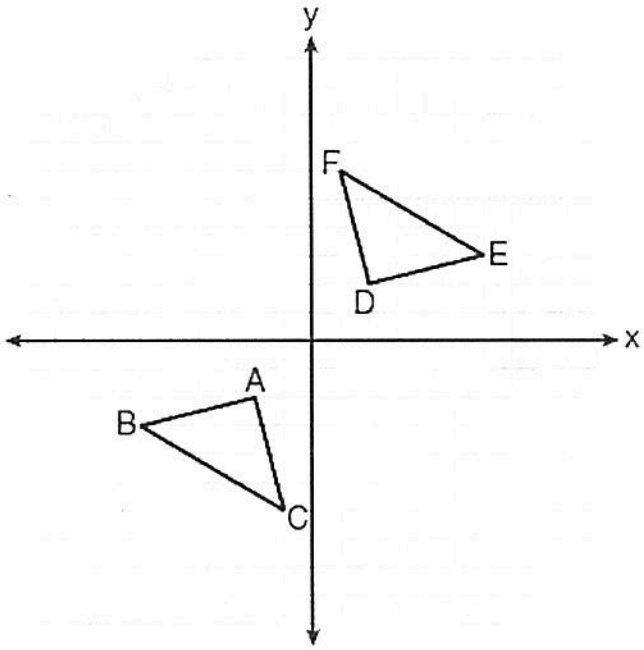


A. 80
B. 70
C. 110
D. 40

98. The image of ΔABC after the transformation $r_{y\text{-axis}}$ is $\Delta A'B'C'$. Which property is *not* preserved?

A. distance
B. orientation
C. collinearity
D. angle measure

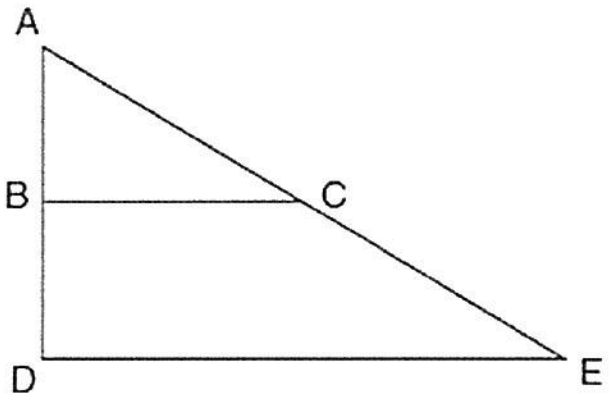
99. Triangle ABC and triangle DEF are graphed on the set of axes below.



Which sequence of transformations maps triangle ABC onto triangle DEF?

A. a reflection over the x-axis followed by a reflection over the y-axis
B. a 180° rotation about the origin followed by a reflection over the line $y = x$
C. a 90° clockwise rotation about the origin followed by a reflection over the y-axis
D. a translation 8 units to the right and 1 unit up followed by a 90° counterclockwise rotation about the origin

100. The image of ΔABC after a dilation of scale factor k centered at point A is ΔADE, as shown in the diagram below.



Which statement is always true?

A. $2AB = AD$
B. $\overline{AD} \perp \overline{DE}$
C. $AC = CE$
D. $\overline{BC} \parallel \overline{DE}$

Answer Key for GCC Midterm Review

1. A
2. A
3. D
4. A
5. B
6. B
7. B
8. B
9. A
10. A
11. C
12. A
13. B
14. B
15. A
16. A
17. D
18. C
19. A
20. D
21. C
22. A
23. A
24. D
25. C
26. C
27. D
28. A
29. D
30. C
31. A
32. B
33. B
34. B
35. C
36. C
37. C
38. D
39. B
40. D
41. A
42. B
43. A
44. D
45. A
46. A
47. C
48. D
49. B
50. A
51. D
52. A
53. D
54. B
55. B
56. B
57. B
58. A
59. D
60. C
61. B
62. B
63. D
64. B
65. A
66. D
67. C
68. D
69. D
70. A
71. C
72. B
73. D
74. C
75. D
76. A
77. A
78. C
79. C
80. D
81. B
82. B
83. C
84. B
85. C
86. C
87. A
88. C
89. C
90. B
91. D
92. D
93. B
94. C
95. B
96. D
97. C
98. B
99. A
100. D