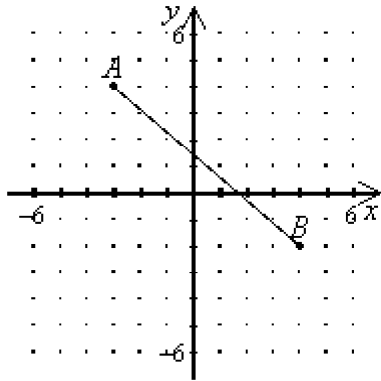


Name: _____

Accelerated Geometry Summer Assignment

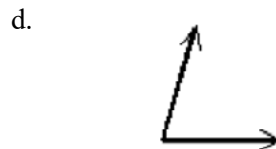
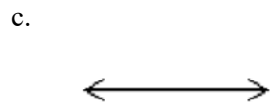
Important!!!! There will be a test over the material covered in Accelerated Algebra the first Friday when school starts. Use this as a guide for what to study. It needs to be complete BEFORE class starts on TUESDAY!

1. The distance between points A and B is _____.

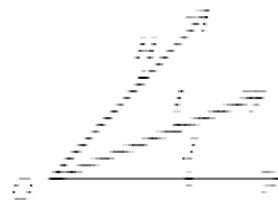


- a. $\sqrt{13}$
b. $\sqrt{11}$
c. $\sqrt{85}$
d. 85
2. Find the midpoint of the segment with endpoints $(9, 8)$ and $(3, 5)$.
- a. $(3, \frac{3}{2})$
b. $(12, 13)$
c. $(6, \frac{13}{2})$
d. $(1, -2)$
3. $\angle 1$ and $\angle 2$ are supplementary angles. $\angle 1$ and $\angle 3$ are vertical angles. If $m\angle 2 = 72^\circ$, what is $m\angle 3$?
- a. 18°
b. 72°
c. 108°
d. 28°

4. The nonshared sides of two adjacent angles form a pair of opposite rays. The angles are _____.
- a. acute
b. complementary
c. a linear pair
d. vertical angles
5. Which angle measures approximately 72° ?



6. If $m\angle IOJ = 22^\circ$ and $m\angle HOI = 25^\circ$, then what is the measure of $\angle HOJ$?



- a. 45°
b. 44°
c. 52°
d. 47°

7. Which is *not* a possible value for y in the figure below?



- a. 70
 b. 115
 c. 55
 d. 160
8. Which one of the statements below is *false*?
- a. A circle is NOT a polygon.
 b. An octagon has 8 angles.
 c. A decagon has 10 sides.
 d. A pentagon has 9 angles.
9. A wooden fence is to be built around a 50 m-by-62 m lot. How many meters of fencing will be needed? If the wood for the fence costs \$47.75 per meter, what will the wood for the fence cost?
- a. 3100 m, \$148,025.00
 b. 3100 m, \$10,696.00
 c. 224 m, \$10,696.00
 d. 224 m, \$148,025.00
10. Use the formula for the area of a triangle $A = \frac{1}{2}bh$ to find the value of the unknown variable.

Henry wants to use 48 feet of fencing to enclose part of his yard for a garden. Which of the figures described would use all 48 feet of fencing and enclose the largest area of Henry's yard?

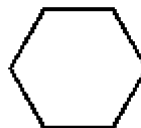
- a. A rectangle with a length of 14 feet and a width of 10 feet
 b. A rectangle with a length of 16 feet and a width of 8 feet
 c. A square with a side length of 12 feet
 d. A circle with a radius of about 7.6 feet

11. Which figure below is *not* a regular polygon?

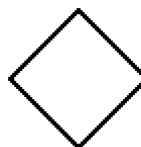
a.



b.



c.



d.

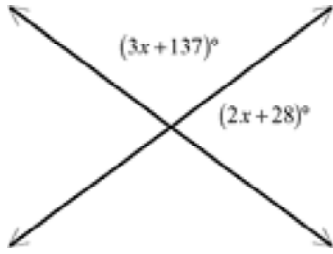


12. In the figure shown, $m\angle AED = 124^\circ$. Which of the following statements is false?



- a. $\angle BEC$ and $\angle CED$ are adjacent angles.
 b. $\angle AEB$ and $\angle DEC$ are supplementary angles.
 c. $m\angle AEB = 56^\circ$
 d. $m\angle BEC = 124^\circ$

13. Solve for x .



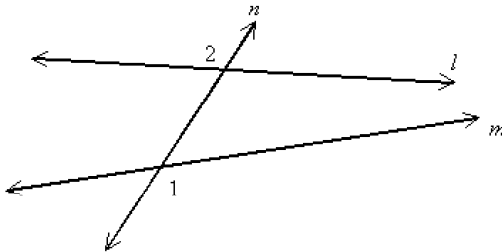
- a. 3
- b. 6
- c. 1
- d. 2

14. Give the reason for the last statement in the proof.

Statement	Reason
$\angle 1$ and $\angle 2$ are vertical angles.	Given
$\angle 1 \cong \angle 2$?

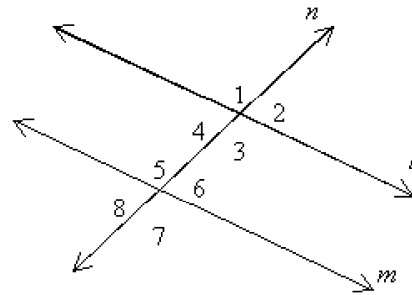
- a. Vertical Angles Congruence Theorem
- b. Congruent Complements Theorem
- c. Congruent Supplements Theorem
- d. Linear Pair Postulate

15. In the figure, $\angle 1$ and $\angle 2$ are _____.



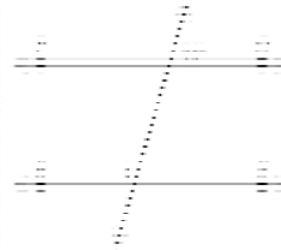
- a. alternate exterior angles
- b. alternate interior angles
- c. consecutive interior angles
- d. corresponding angles

16. In the figure, $\angle 6$ and $\angle 2$ are _____.



- a. alternate interior angles
- b. consecutive interior angles
- c. alternate exterior angles
- d. corresponding angles

17. Find $m\angle 1$ in the figure below. \overleftrightarrow{PQ} and \overleftrightarrow{RS} are parallel.

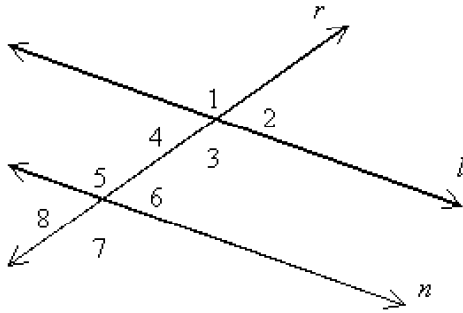


- a. 105°
- b. 75°
- c. 115°
- d. 15°

18. What is the slope of the line that passes through points $A(-2,-3)$ and $B(5,3)$?

- a. $\frac{6}{7}$
- b. $\frac{7}{6}$
- c. $-\frac{6}{7}$
- d. 0

19. In the figure, $l \parallel n$ and r is a transversal. Which of the following is not necessarily true?



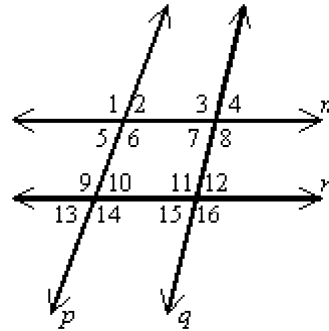
- a. $\angle 8 \cong \angle 2$
 b. $\angle 2 \cong \angle 6$
 c. $\angle 5 \cong \angle 3$
 d. $\angle 7 \cong \angle 4$
20. In the figure shown, $\overleftrightarrow{HC} \parallel \overleftrightarrow{GD}$ and $m\angle ABC = 100^\circ$. Which of the following statements is false?



- a. $m\angle CBE = 80^\circ$
 b. $m\angle DEF = 80^\circ$
 c. $\angle DEB$ and $\angle CBE$ are corresponding angles.
 d. $\angle CBE$ and $\angle GEF$ are alternate interior angles.
21. A line L_1 has slope $\frac{4}{9}$. The line that passes through which of the following pairs of points is parallel to L_1 ?

- a. $(6, -3)$ and $(2, 6)$
 b. $(12, -1)$ and $(2, 8)$
 c. $(-5, 2)$ and $(6, 6)$
 d. $(-3, 2)$ and $(6, 6)$

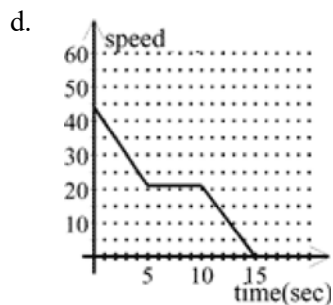
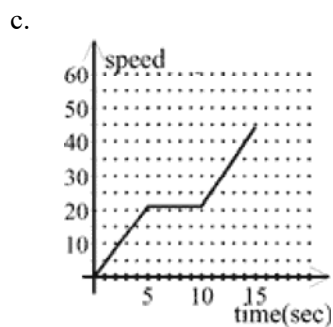
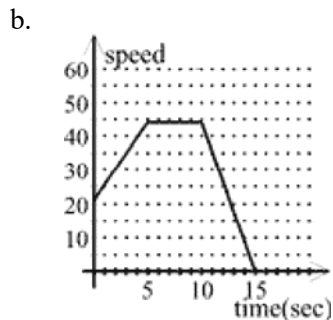
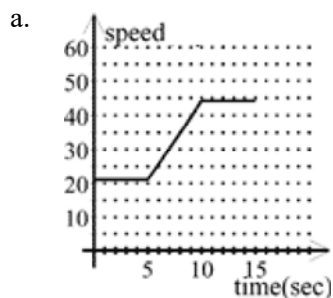
22. Line m is parallel to line n and they are each intersected by the same two transversals. Which angle is NOT necessarily congruent to $\angle 4$?



- a. $\angle 12$
 b. $\angle 16$
 c. $\angle 7$
 d. $\angle 15$
23. Which best describes the relationship between the line that passes through $(7, 1)$ and $(10, 5)$ and the line that passes through $(-8, 5)$ and $(-5, 9)$?
- a. same line
 b. perpendicular
 c. neither perpendicular nor parallel
 d. parallel
24. Which best describes the relationship between *Line 1* and *Line 2*?
- Line 1* passes through $(-3, 6)$ and $(-7, 11)$
Line 2 passes through $(1, 8)$ and $(-4, 4)$
- a. perpendicular
 b. They are the same line.
 c. parallel
 d. neither perpendicular nor parallel
25. Write an equation that is parallel to $y = \frac{2}{3}x - 7$.

- a. $y = -\frac{3}{2}x + 7$
 b. $y = \frac{2}{3}x + 1$
 c. $y = \frac{3}{2}x + 2$
 d. $y = -\frac{2}{3}x - 7$

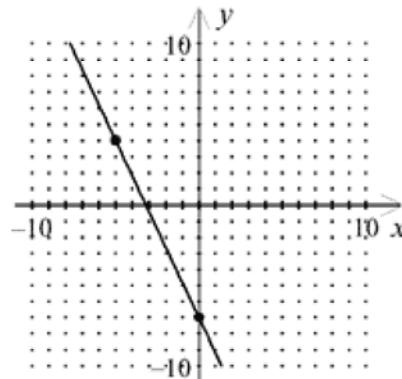
26. Which graph below would match the situation described?
 A car is traveling at 44 mph slows to 21 mph in the first 5 seconds. It maintains that speed for the next 5 seconds, and then slows to a stop in the next five seconds.



27. Which best describes the relationship between the lines with equations $-5x - 8y = 4$ and $-30x - 48y = 24$?
- neither parallel nor perpendicular
 - same line
 - parallel
 - perpendicular

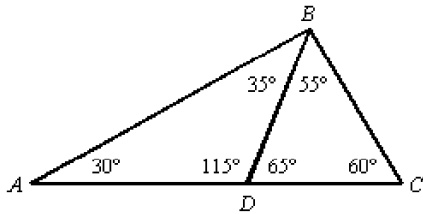
28. Write an equation that is perpendicular to $y = -4x + 2$.
- $y = 4x + 2$
 - $y = -4x - 2$
 - $y = \frac{1}{4}x + 1$
 - $y = -\frac{1}{4}x + 1$

29. Write an equation in slope-intercept form of the graph shown.



- $y = -\frac{11}{5}x - 7$
- $y = \frac{5}{11}x - 7$
- $y = \frac{11}{5}x - 7$
- $y = -\frac{5}{11}x - 7$

30. Name a right triangle.



- a. $\triangle BDC$
- b. none of these
- c. $\triangle ADB$
- d. $\triangle ABC$

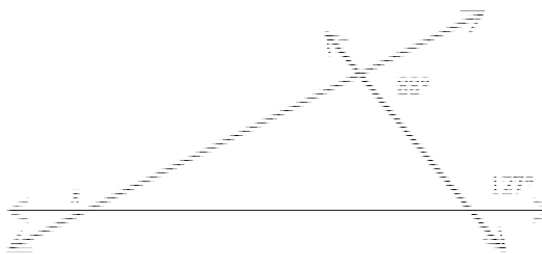
31. A triangle has angle measures of 60° , 60° , and 60° . Choose the term that describes the triangle.

- a. Equiangular
- b. Right
- c. Obtuse
- d. Scalene

32. How many obtuse angles can an isosceles triangle have?

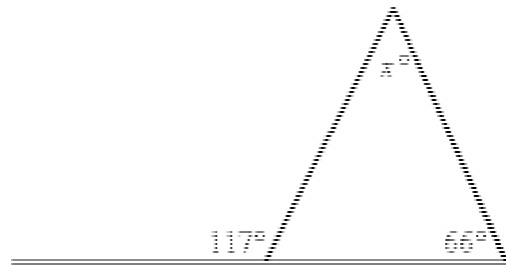
- a. 2
- b. 3
- c. 0
- d. 1

33. Find the value of x :



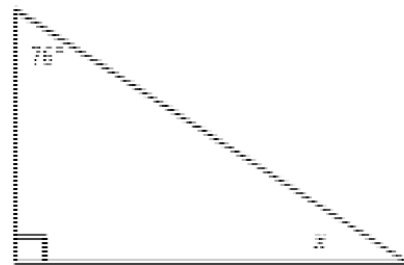
- a. 127°
- b. 35°
- c. 88°
- d. 145°

34. Find the value of x .



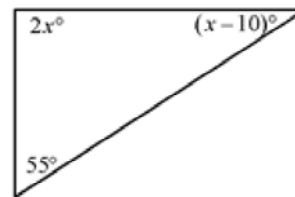
- a. 117
- b. 297
- c. 66
- d. 51

35. Find the value of x .



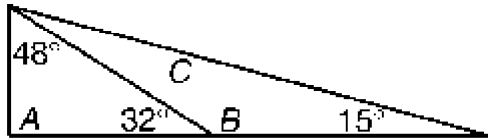
- a. 14°
- b. 166°
- c. 104°
- d. 28°

36. Use the figure below to solve for x .



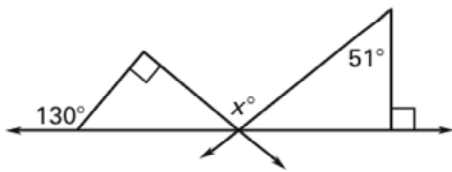
- a. 55
- b. 90
- c. 145
- d. 45

37. Refer to the figure below. $m\angle C = \underline{\hspace{2cm}}$.



- a. 100°
- b. 17°
- c. 148°
- d. 15°

38. The measure of $\angle B$ is $\underline{\hspace{2cm}}$.

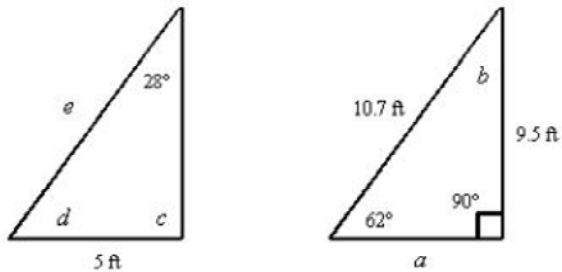


- a. 99°
- b. 89°
- c. 79°
- d. 101°

39. Which pair of lengths can be two of the sides of an isosceles triangle which has a perimeter of 52 inches?

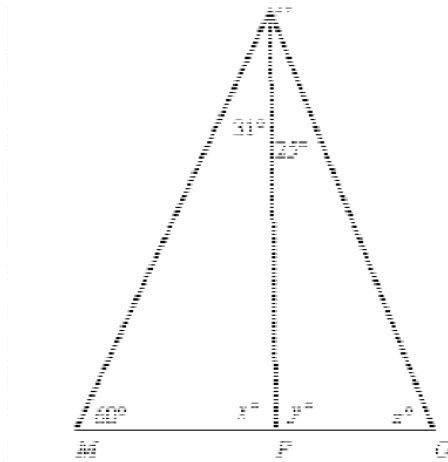
- a. 15 inches, 25 inches
- b. 15 inches, 22 inches
- c. 12 inches, 22 inches
- d. 16 inches, 21 inches

40. The two triangle-shaped gardens are congruent. Find the missing side lengths and angle measures.



- a. $a = 5$ ft; $b = 28^\circ$; $c = 90^\circ$; $d = 62^\circ$; $e = 5$ ft
- b. $a = 5$ ft; $b = 28^\circ$; $c = 62^\circ$; $d = 90^\circ$; $e = 5$ ft
- c. $a = 9.5$ ft; $b = 28^\circ$; $c = 90^\circ$; $d = 62^\circ$; $e = 10.7$ ft
- d. $a = 5$ ft; $b = 28^\circ$; $c = 90^\circ$; $d = 62^\circ$; $e = 10.7$ ft

41. What is the value of z ? (The figure may not be drawn to scale.)

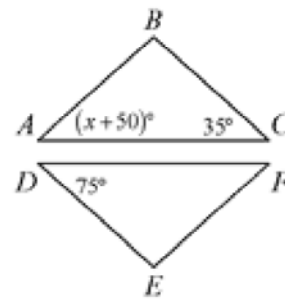


- a. $z = 56$
- b. $z = 25$
- c. $z = 64$
- d. $z = 31$

42. If $\triangle ABC \cong \triangle DEF$, $AB = 10$ feet, $m\angle B = 27^\circ$, and $m\angle F = 14^\circ$, which of the following statements is false?

- a. $AC = DF$
- b. $\angle C \cong \angle F$
- c. $m\angle E = 139^\circ$
- d. $AB = DE$

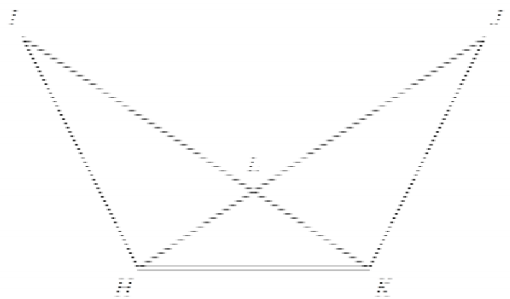
43. In the diagram, $\angle B \cong \angle E$ and $\angle C \cong \angle F$. Find the value of x .



- a. $x = 50$
- b. $x = 25$
- c. $x = 75$
- d. $x = 35$

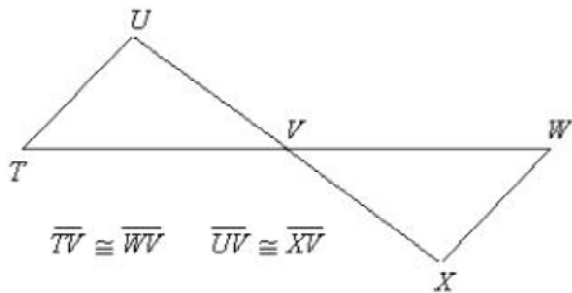
44. If $\triangle MNO \cong \triangle VWX$, which statement is NOT true?
- $\overline{NO} \cong \overline{VW}$
 - $\angle O \cong \angle X$
 - $\overline{MO} \cong \overline{VX}$
 - $\angle N \cong \angle W$

45. Refer to the figure below. Which of the following statements is true?



$\triangle HLK$ is isosceles with base \overline{HK} ,
 $\angle IHL$ and $\angle JKL$ are right angles, $\overline{IK} \cong \overline{JH}$

- $\triangle HIL \cong \triangle KJL$ by HL
 - $\triangle HLK \cong \triangle JLK$ by SSS
 - $\triangle HKI \cong \triangle HJK$ by SAS
 - There are no congruent triangles.
46. Refer to the figure shown. Which of the following statements is true?

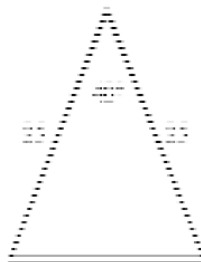


- $\triangle TUV \cong \triangle XWV$ by ASA
 - $\triangle TUV \cong \triangle VWX$ by SAS
 - $\triangle TUV \cong \triangle WXV$ by SAS
 - $\triangle TUV \cong \triangle WXV$ by SSS
47. Given: $\triangle ABC \cong \triangle DEF$ with $\overline{AB} \cong \overline{BC}$. Which statement of congruence is not provable?
- $\triangle ABC \cong \triangle CBA$
 - $\triangle DEF \cong \triangle CBA$
 - $\triangle ABC \cong \triangle FDE$
 - $\triangle ABC \cong \triangle FED$

48. Given: $\angle B \cong \angle E$ and $\angle C \cong \angle F$. What other piece of information is needed to show $\triangle ABC \cong \triangle DEF$ by ASA Congruence Postulate?

- $\overline{EF} \cong \overline{FE}$
- $\overline{BC} \cong \overline{EF}$
- $\angle A \cong \angle D$
- $\angle B = \angle F$

49. What is the measure of each base angle of an isosceles triangle if its vertex angle measures 40 degrees and its 2 congruent sides measure 25 units?



- 70°
- 140°
- 50°
- 40°

50. In $\triangle ABC$, $\overline{AB} = 3x - 2$, $\overline{BC} = x + 4$, and $\overline{AC} = 7$. Also $\overline{AB} \cong \overline{BC}$. Which term does NOT describe $\triangle ABC$?

- Equilateral
- Acute
- Isosceles
- Obtuse

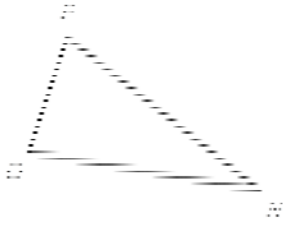
51. In $\triangle ABC$, if $\overline{AB} \cong \overline{BC}$ and $m\angle A = 39^\circ$, then $m\angle C =$ _____

- 102°
- 39°
- $m\angle B$
- 141°

52. Identify the coordinates of the point $(-5, -3)$ after a rotation of 180° clockwise about the origin.

- $(-5, 3)$
- $(5, 3)$
- $(-3, -5)$
- $(5, -3)$

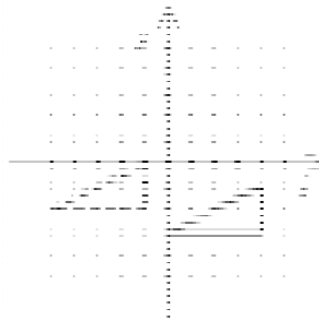
53. Given $m\angle NOP = m\angle NPO$; $NO = 2n + 4$; $NP = 8n - 3$; $OP = 9$; find NO .



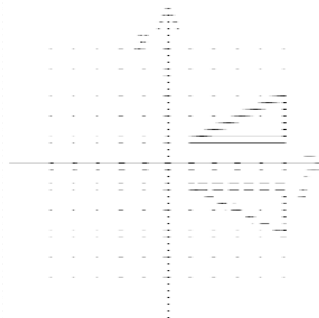
- a. $NO = 3$
 b. $NO = \frac{19}{3}$
 c. $NO = \frac{7}{6}$
 d. $NO = 22$
54. Identify the coordinates of the image point formed after $(-1, 3)$ is reflected over the x -axis.
- a. $(-1, 3)$
 b. $(1, 3)$
 c. $(1, -3)$
 d. $(-1, -3)$
55. What is the translation image of $(-3, -6)$ after the translation $(x, y) \rightarrow (x + 4, y + 3)$?
- a. $(-7, -9)$
 b. $(1, -9)$
 c. $(-7, -3)$
 d. $(1, -3)$
56. A person facing east walks east 20 paces, turns, walks north 10 paces, turns, walks west 25 paces, turns, walks south 10 paces, turns, walks east 15 paces, and then stops. What one transformation could have produced the same final result in terms of the position of the person and the direction the person faces?
- a. reflection over the north-south axis
 b. rotation
 c. translation
 d. reflection over the east-west axis

57. Which graph represents a reflection in the x -axis?

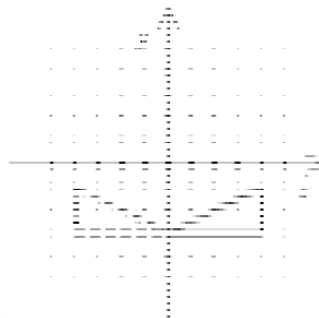
a.



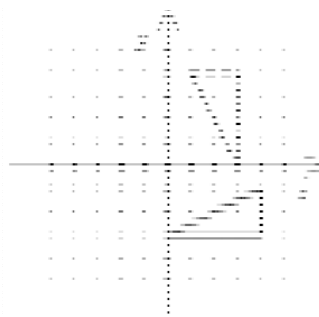
b.



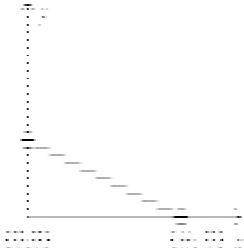
c.



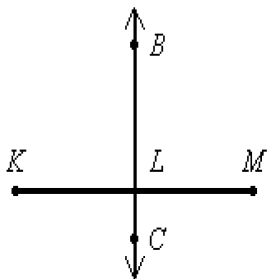
d.



58. A right triangle is placed in a convenient position in the first quadrant of a coordinate plane. Which is the missing label for the vertex?

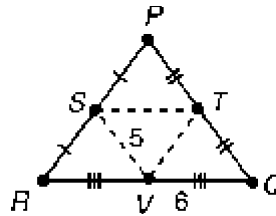


- a. $(v,0)$
 b. $(0,u)$
 c. $(0,v)$
 d. (u,v)
59. Given: \overleftrightarrow{BC} is the perpendicular bisector of \overline{KM} . Which statement is true?

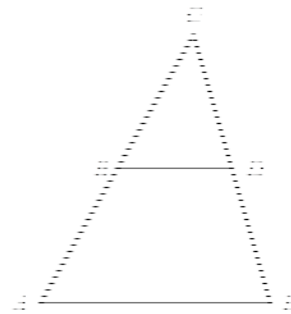


- a. $\angle BLM, \angle MLC, \angle CLK, \angle KLB$ are all right angles.
 b. $CM = BM$
 c. $\angle KBM$ is a right angle.
 d. C is the midpoint of \overline{KM}
60. A map has a scale of $\frac{1}{2}$ inch : 28 miles. If the actual distance between the two cities is 448 miles, how far apart are they on the map?
- a. 16 inches
 b. 32 inches
 c. 8 inches
 d. 4 inches

61. For the triangle shown, $VS = 5$ and $VQ = 6$. Then $PQ = \underline{\hspace{2cm}}$.

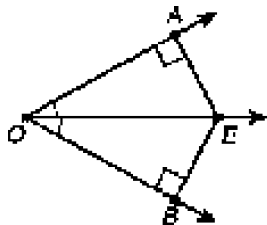


- a. 11
 b. 12
 c. 10
 d. 5
62. Solve for x given $BD = \frac{5}{2}x + 4$ and $AE = 6x + 4$. Assume B is the midpoint of \overline{AC} and D is the midpoint of \overline{CE} .



- a. $-\frac{1}{2}$
 b. 4
 c. 2
 d. $-\frac{1}{4}$

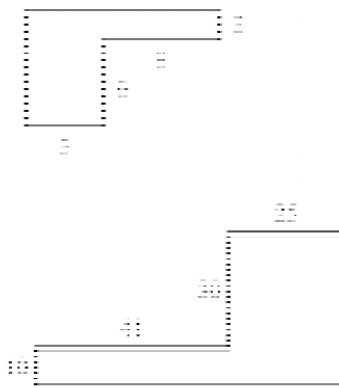
63. \overrightarrow{OE} bisects $\angle BOA$, $\overline{EA} \perp \overline{OA}$, and $\overline{EB} \perp \overline{OB}$. Which statement is NOT true?



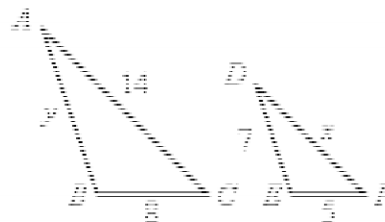
- $\overline{AE} \cong \overline{BE}$
 - $\angle AOE \cong \angle EAO$
 - $\overline{OA} \cong \overline{OB}$
 - $\angle AEO \cong \angle BEO$
64. The Community Recreation Center is developing plans for a new sports facility. Community members can submit suggestions for the new facility, along with basic scale drawings of their ideas. Rachel wants to include a new 11- by 24-meter tennis court in the athletic center. She is submitting a scale drawing on an 8.5- by 11-inch sheet of paper. Which scale should Rachel use to create as large a drawing as possible on the paper?
- $\frac{3}{8}$ in. = 1 m
 - $\frac{3}{4}$ in. = 1 m
 - $\frac{1}{8}$ in. = 1 m
 - $\frac{7}{16}$ in. = 1 m

65. If two polygons are SIMILAR, then the corresponding angles must be _____.
- complementary
 - supplementary
 - congruent
 - linear pairs
66. If two polygons are SIMILAR, then the corresponding sides must be _____.
- proportional
 - congruent
 - parallel
 - similar

67. Are the two polygons similar? (They are not drawn to scale, but assume all angles are 90° .) If not, explain why.

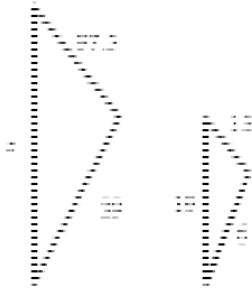


- Yes
 - No; $\frac{5}{25} \neq \frac{6}{10}$
 - not enough information to tell
 - No; $\frac{5}{25} \neq \frac{8}{41}$
68. Given that $\triangle ABC \sim \triangle DEF$, solve for x and y .



- $x = 9.75, y = 11.2$
 - $x = 8.75, y = 11.2$
 - $x = 8.75, y = 10.2$
 - $x = 9.75, y = 10.2$
69. The perimeter of $\triangle PQR$ is 80, $PQ = 30$, $\triangle PQR \sim \triangle STU$, and $ST = 18$. What is the perimeter of $\triangle STU$?
- 18.4
 - 6.8
 - 48
 - 24

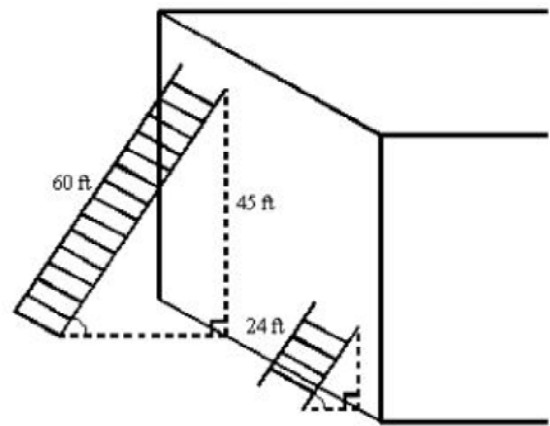
70. A rectangle has a length of 9 mm. A similar rectangle is drawn using a scale of 1:3. What is the length of the second rectangle?
- 9 mm
 - 6 mm
 - 3 mm
 - 4 mm
71. The triangles below are similar. Find x .



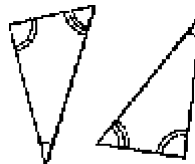
- 2.9
 - 130
 - 123.5
 - 49.4
72. Which triangle is NOT similar to any of the others?
- -
 -
 -

73. If the corresponding sides of two triangles are proportional, then _____.
- the triangles are right triangles
 - the triangles are similar
 - corresponding side lengths are equal
 - the triangles are congruent

74. Two ladders are leaning against a wall at the same angle as shown.

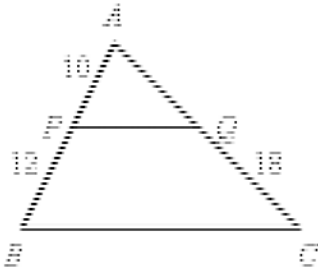


- How far up the wall does the shorter ladder reach?
- 16 ft
 - 18 ft
 - 22 ft
 - 36 ft
75. One way to show that two triangles are similar is to show that _____.
- two angles of one are congruent to two angles of the other
 - two sides of one are proportional to two sides of the other
 - a side of one is congruent to a side of the other
 - an angle of one is congruent to an angle of the other
76. The postulate or theorem that can be used to prove that the two triangles are similar is _____.



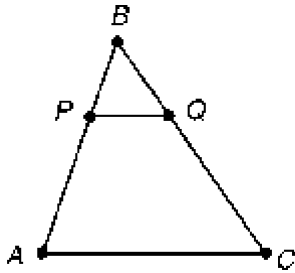
- SAS Similarity Theorem
- ASA Congruence Theorem
- SSS Similarity Theorem
- AA Similarity Postulate

77. Given: $\overline{PQ} \parallel \overline{BC}$. Find the length of \overline{AQ} .



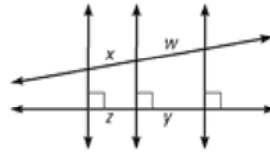
- a. 17
- b. 19
- c. 12
- d. 15

78. If $\triangle ABC \sim \triangle PBQ$, then which of the following proportions is NOT true?



- a. $\frac{AC}{PQ} = \frac{CB}{QB}$
- b. $\frac{AP}{PB} = \frac{AC}{PQ}$
- c. $\frac{AP}{PB} = \frac{CQ}{QB}$
- d. $\frac{PB}{AB} = \frac{PQ}{AC}$

79. For the figure shown, which statement is *not* true?



- a. $\frac{w}{y} = \frac{x}{z}$
- b. $wx = yz$
- c. $wz = xy$
- d. $\frac{w}{x} = \frac{y}{z}$

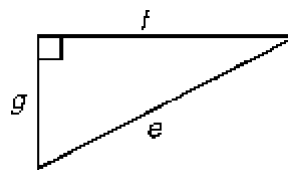
80. Which of the following sets of numbers is a Pythagorean triple?

- a. $\sqrt{3}, \sqrt{4}, \sqrt{5}$
- b. 12, 16, 20
- c. $\frac{1}{3}, \frac{1}{4}, \frac{1}{5}$
- d. $3^2, 4^2, 5^2$

81. A set of Pythagorean triples is _____.

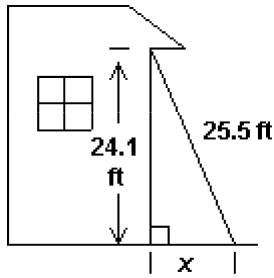
- a. 3, 5, 9
- b. 1, 1, 2
- c. 6, 9, 12
- d. 5, 12, 13

82. For the triangle shown below, the Pythagorean Theorem states that _____.

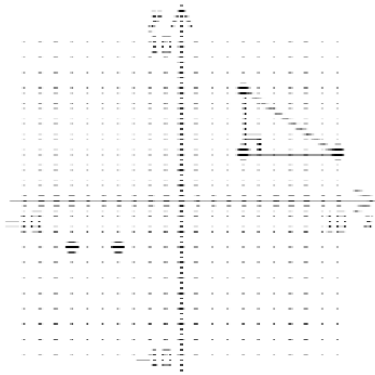


- a. $e^2 + f^2 = g^2$
- b. $e = f + g$
- c. $f^2 - g^2 = e^2$
- d. $e^2 = f^2 + g^2$

83. A 25.5 foot ladder rests against the side of a house at a point 24.1 feet above the ground. The foot of the ladder is x feet from the house. Find the value of x to one decimal place.

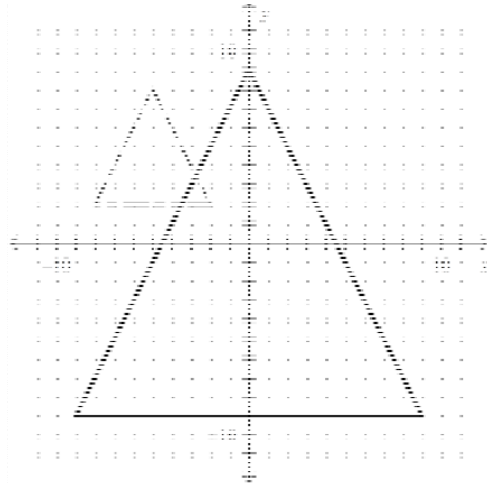


- a. 1.9
 b. 7.0
 c. 8.3
 d. 10.1
84. One triangle is shown on the coordinate grid. Two vertices for a second triangle are also shown. Which coordinates for the third vertex will form another triangle that is similar to the triangle that is shown?



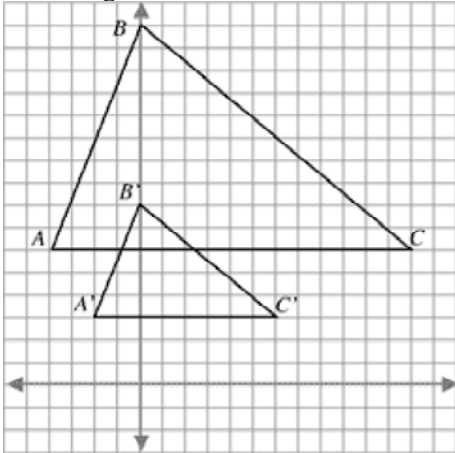
- a. $(-7, -7)$
 b. $(-7, -2)$
 c. $(-7, -5)$
 d. $(-7, 5)$

85. The dashed triangle is the image of the solid triangle for a dilation with center at the origin. What is the scale factor?



- a. $\frac{2}{3}$
 b. $\frac{3}{2}$
 c. 3
 d. $\frac{1}{3}$
86. If a , b , and c are sides of a right triangle, which of the following are also sides of a right triangle?
- a. The square root of each length (\sqrt{a} , \sqrt{b} , \sqrt{c})
 b. Twice the length of each side ($2a$, $2b$, $2c$)
 c. Four more than each length ($a + 4$, $b + 4$, $c + 4$)
 d. The square of each length
87. Which set of lengths cannot form a right triangle?
- a. 6 mm, 12 mm, 13 mm
 b. 5 mm, 12 mm, 13 mm
 c. 2.5 mm, 6 mm, 6.5 mm
 d. 10 mm, 24 mm, 26 mm

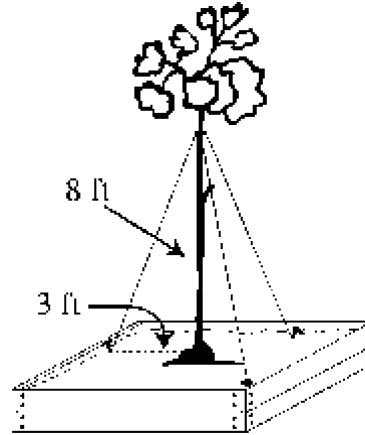
88. In the figure below, $\triangle ABC \sim \triangle A'B'C'$.



Which statement is true of the transformation from $\triangle ABC$ to $\triangle A'B'C'$?

- The measures of all corresponding angles change by a scale factor of 2.
 - The measures of all corresponding angles change by a scale factor of $\frac{1}{2}$.
 - The lengths of all corresponding sides change by a scale factor of 2.
 - The lengths of all corresponding sides change by a scale factor of $\frac{1}{2}$.
89. If the side lengths of a triangle are 7, 6, and 9, the triangle _____.
- is an obtuse triangle
 - is a right triangle
 - is an acute triangle
 - cannot be formed
90. Choose the set that is the possible side lengths of a right triangle.
- 1, 1, 2
 - 1, 1, $\sqrt{2}$
 - 3, 4, 7
 - 3, 5, 9
91. Choose the set that is the possible side lengths of a right triangle.
- 4, 9, 13
 - $\sqrt{2}$, $\sqrt{2}$, 2
 - 1, 1, 2
 - 8, 15, 25

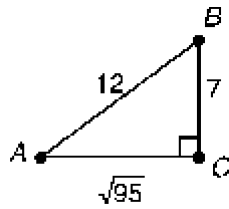
92. A freshly-planted sapling is braced by 3 cables attached to a collar secured to the sapling 8 feet up the trunk. Each cable is staked into the ground 3 feet from the sapling's trunk.



If fastening a cable to the collar uses 8 inches of cable and fastening it to its stake also uses 8 inches of cable, about how much cable has been used?

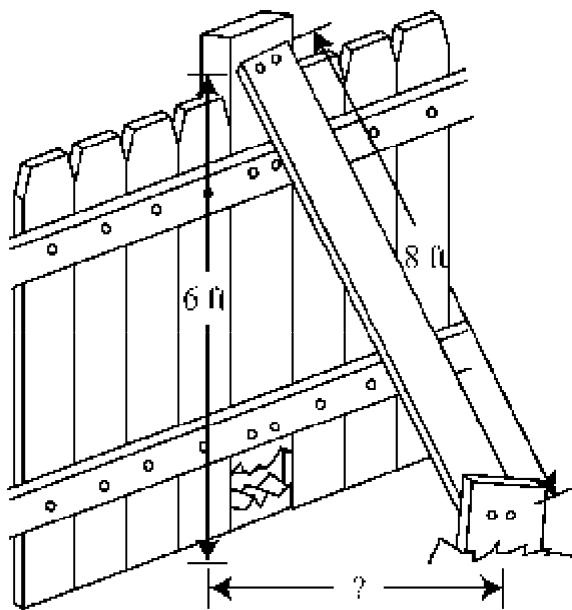
- about 29.6 feet
 - about 27.6 feet
 - about 25.3 feet
 - about 26.3 feet
93. Which of the following *cannot* be the lengths of a 30° - 60° - 90° triangle?
- $\frac{21}{13}$, $\frac{42}{13}$, $\frac{21}{13}\sqrt{3}$
 - 23, 46, $46\sqrt{3}$
 - 27, 54, $27\sqrt{3}$
 - 6, 12, $6\sqrt{3}$
94. An equilateral triangle has side lengths of 10. The length of its altitude is _____.
- $10\sqrt{5}$
 - 5
 - $5\sqrt{10}$
 - $5\sqrt{3}$

95. The tangent of $\angle B$ is _____.



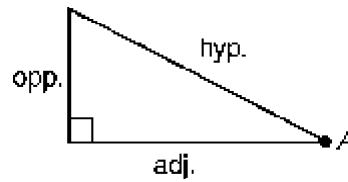
- a. $\frac{\sqrt{95}}{7}$
- b. $\frac{\sqrt{95}}{12}$
- c. $7\sqrt{95}$
- d. $\frac{12}{7}$

96. A board 8 feet long is to be used as a temporary brace for a section of fence that has a broken post. If the board is nailed to the fence 6 feet above ground level, about how far from the base of the fence is the other end of the board when it is fastened to a stake in the ground?



- a. 7.2 feet
- b. 5.3 feet
- c. 6.8 feet
- d. 2 feet

97. The cosine of $\angle A$ is the ratio _____.



- a. $\frac{\text{adj.}}{\text{hyp.}}$
- b. $\frac{\text{opp.}}{\text{hyp.}}$
- c. $\frac{\text{hyp.}}{\text{adj.}}$
- d. $\frac{\text{opp.}}{\text{adj.}}$

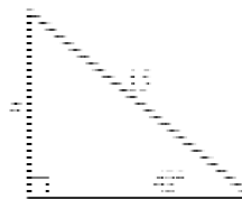
98. To find the height of a tower, a surveyor positions a transit that is 2 meters tall at a spot 95 meters from the base of the tower. She measures the angle of elevation to the top of the tower to be 32° . What is the height of the tower, to the nearest meter?

- a. 154 m
- b. 59 m
- c. 61 m
- d. 152 m

99. A slide 4.1 m long makes an angle of 27° with the ground. How high is the top of the slide above the ground?

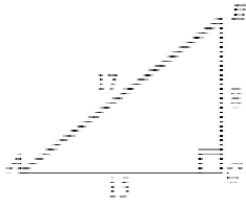
- a. 1.86 m
- b. 3.65 m
- c. 1.93 m
- d. 2.09 m

100. What is x to the nearest hundredth?



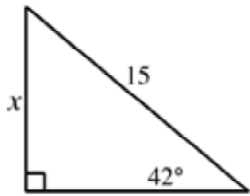
- a. $x = 16.66$
- b. $x = 13.51$
- c. $x = 11.15$
- d. $x = 10.04$

101. Find $\tan B$ for the right triangle below:



- a. $\frac{8}{17}$
- b. $\frac{15}{17}$
- c. $\frac{8}{15}$
- d. $\frac{15}{8}$

102. Find x . Round the result to the nearest hundredth.



- a. $x = 13.51$
- b. $x = 11.15$
- c. $x = 10.04$
- d. $x = 16.66$

103. Which of the following is NOT enough information to solve a right triangle?

- a. Two sides
- b. One side length and one trigonometric ratio
- c. Two angles
- d. One side length and one acute angle measure

104. Find the measure of each exterior angle of a regular polygon with 16 sides.

- a. 11.25°
- b. 360°
- c. 22.5°
- d. 157.5°

105. Choose the statement that is NOT ALWAYS true. For any parallelogram _____.

- a. the diagonals bisect each other
- b. opposite angles are congruent
- c. the diagonals are perpendicular
- d. opposite sides are congruent

106. Which statement is true?

- a. All quadrilaterals are squares.
- b. All rectangles are squares.
- c. All parallelograms are quadrilaterals.
- d. All quadrilaterals are parallelograms.

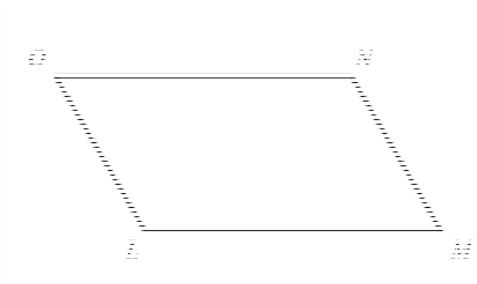
107. Choose the statement that is NOT ALWAYS true. For a rhombus _____.

- a. each diagonal bisects a pair of opposite angles
- b. all four sides are congruent
- c. the diagonals are congruent
- d. the diagonals are perpendicular

108. The diagonals of a parallelogram always _____.

- a. are congruent
- b. are parallel
- c. bisect each other
- d. are perpendicular

109. If $ON = 7x - 5$, $LM = 6x + 3$, $NM = x - 4$, and $OL = 2y + 5$, find the values of x and y given that $LMNO$ is a parallelogram.



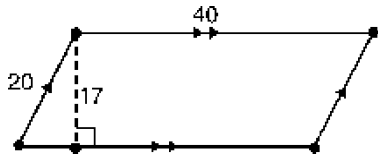
- a. $x = \frac{1}{2}$; $y = \frac{13}{2}$
- b. $x = 8$; $y = -2$
- c. $x = 8$; $y = -\frac{1}{2}$
- d. $x = 2$; $y = -2$

110. Which statement is NOT always true of a rhombus?
- The diagonals are perpendicular to each other.
 - The diagonals bisect each other.
 - Each diagonal is longer than at least one side.
 - The sum of the diagonals is less than the perimeter.

111. Use the figure. \overline{SR} is tangent to $\odot Q$ at R . Choose the true statement.
- $m\angle RQS + m\angle QSR = 180^\circ$
 - $m\angle RQS = 90^\circ$
 - $m\angle SRQ = 90^\circ$
 - $\overline{SQ} \cong \overline{SR}$

112. A rectangle has length l and width w . An expression for its area is _____.
- $\frac{2(l+w)}{\sqrt{l^2+w^2}}$
 - $\sqrt{l^2+w^2}$
 - $l \cdot w$
 - \sqrt{lw}

113. The area of the parallelogram is _____.



- 680 sq. units
 - 800 sq. units
 - $40\sqrt{111}$ sq. units
 - 340 sq. units
114. If the sides of a square are made eight times longer, how many times the area of the original figure is the area of the new figure?
- 128 times
 - 8 times
 - 64 times
 - 640 times
115. Find the area of an equilateral triangle with side length 14.
- $21\sqrt{3}$
 - 42
 - 98
 - $49\sqrt{3}$

Simplify:

116. $\sqrt{300}$
- $10\sqrt{30}$
 - $10\sqrt{3}$
 - $\sqrt{30}$
 - $3\sqrt{10}$

117. $\sqrt{200}$
- $10\sqrt{2}$
 - $5\sqrt{2}$
 - $50\sqrt{2}$
 - $20\sqrt{2}$

Simplify:

118. $\sqrt{10} \cdot \sqrt{4}$
- $2\sqrt{10}$
 - $4\sqrt{5}$
 - $2\sqrt{5}$
 - $\sqrt{40}$

119. $\sqrt{30} \cdot \sqrt{12}$
- $9\sqrt{20}$
 - $12\sqrt{10}$
 - $6\sqrt{10}$
 - $3\sqrt{40}$

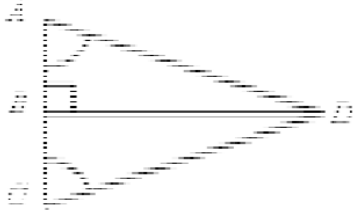
120. $11\sqrt{25}$
- 137.5
 - 16
 - 55
 - 27.5

Simplify:

121. $\sqrt{\frac{49}{100}}$

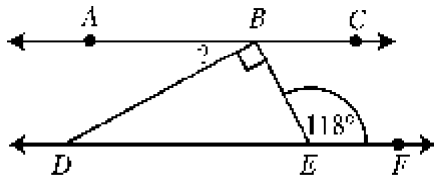
- a. $\frac{7}{50}$
- b. $\frac{3}{4}$
- c. $\frac{7}{100}$
- d. $\frac{7}{10}$

122. $\triangle ABD \cong \triangle CBD$. Name the theorem or postulate that justifies the congruence.



- a. ASA
- b. AAS
- c. SAS
- d. HL

123. If \overline{AC} is parallel to \overline{DF} , what is the measure, in degrees, of $\angle ABD$?

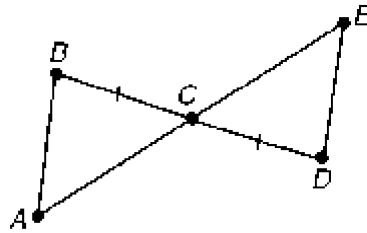


- a. 28°
- b. 72°
- c. 62°
- d. 38°

124. If $\triangle ABC \cong \triangle PQR$ and $\triangle PQR \cong \triangle LMK$, then $\triangle ABC \cong \triangle LMK$. This illustrates which property of congruence?

- a. Transitive
- b. Commutative
- c. Symmetric
- d. Reflexive

125. What must be true in order for $\triangle ABC \cong \triangle EDC$ by the SAS Congruence Postulate?



- a. $\angle B \cong \angle D$
- b. $\angle A \cong \angle E$
- c. $\overline{AC} \cong \overline{CE}$
- d. $\overline{AB} \cong \overline{DE}$

126. What is the correct factorization of $x^2 - 11x + 18$?

- a. $(x + 2)(x - 9)$
- b. $(x - 2)(x + 9)$
- c. $(x - 2)(x - 9)$
- d. $(x + 2)(x + 9)$

127. What is the correct factorization of $x^2 - 2x - 15$?

- a. $(x + 5)(x - 3)$
- b. $(x - 5)(x + 3)$
- c. $(x + 5)(x + 3)$
- d. $(x - 5)(x - 3)$

128. Which value of b would make $x^2 + bx - 24$ factorable?

- a. 4
- b. 5
- c. 8
- d. 12

129. What is the correct factorization of $2x^2 + 3x - 5$?

- a. $(2x + 5)(x - 1)$
- b. $(2x - 5)(x + 1)$
- c. $(2x + 1)(x - 5)$
- d. $(2x - 1)(x + 5)$

130. What is the correct factorization of $-5x^2 + 9x + 2$?

- a. $-1(5x - 1)(x + 2)$
- b. $-1(5x + 1)(x - 2)$
- c. $-1(5x - 2)(x + 1)$
- d. $-1(5x + 2)(x - 1)$

131. Find the value of c that completes the square.

$$m^2 + 22m + c$$

- a. 441
- b. 11
- c. 121
- d. 4

132. Find the value that completes the square and then rewrite as a perfect square.

$$m^2 - 30m + \underline{\quad}$$

- a. 225; $(m - 15)^2$
- b. 900; $(m - 15)^2$
- c. -15; $(m - 15)^2$
- d. 9; $(m + 3)^2$

133. Solve each equation by completing the square.

$$n^2 + 2n - 49 = 2$$

- a. $n = -1 \pm 2\sqrt{13}$
- b. $n = -8 \pm \sqrt{19}$
- c. $n = 1, -17$
- d. $n = 2, -10$

134. Solve each equation by completing the square.

$$p^2 - 20p + 99 = 0$$

- a. $p = 2, -16$
- b. $p = 6, -16$
- c. $p = 11, 9$
- d. $p = 4, -24$

135. $18v^3 + 12v^2 - 160v$

- a. $v(3v + 10)(3v - 8)$
- b. $2(3v - 10)(3v + 8)$
- c. $2v(3v + 10)(3v - 8)$
- d. $2v(3v - 10)(3v - 8)$

136. $54m^2 + 132m + 48$

- a. Not factorable
- b. $6(3m + 4)(3m + 2)$
- c. $6(m + 2)(9m + 4)$
- d. $6(m - 2)(9m + 4)$

137. Write each equation in vertex form by completing the square.

$$x^2 - 14x - 71 = y$$

- a. $y = (x - 7)^2 - 120$
- b. $y = (x - 14)^2 - 120$
- c. $y = (x - 7)^2 - 71$
- d. $y = (x - 7)^2 + 71$

138. Write each equation in vertex form by completing the square.

$$3x^2 + 6x - 24 = y$$

- a. $y = 3(x + 1)^2 - 27$
- b. $y = 3(x + 1)^2 - 9$
- c. $y = 3(x + 1)^2 - 11$
- d. $y = 3(x + 4)(x - 2)$

139. **Topics that you should know from Acc Alg include, but are not limited to:**

- 1) Angles with parallel lines and transversals
- 2) Triangle Congruences and Similarities
- 3) Properties of Quadrilaterals
- 4) Triangle and Angle Proofs
- 5) Special Right Triangles
- 6) Right Triangle Trigonometry
- 7) Pythagorean Theorem
- 8) Triangle Midsegment
- 9) Distance and Midpoint Formulas
- 10) Area and Perimeter Formulas
- 11) Slope and Parallel and Perpendicular Lines

140. **This assignment will be due the first week of school. There will be a test over this material within the first week of school. This material also covers half of the material on the Geometry Milestones test you will take in December.**

Good luck and work hard !

**Accelerated Geometry Summer Assignment
Answer Section**

1. C
2. C
3. C
4. C
5. D
6. D
7. C
8. D
9. C
10. C
11. D
12. B
13. A
14. A
15. A
16. D
17. A
18. A
19. D
20. C
21. D
22. B
23. D
24. A
25. B
26. D
27. B
28. C
29. A
30. D
31. A
32. D
33. D
34. D
35. A
36. D
37. B
38. D
39. B
40. D
41. C
42. C
43. B

- 44. A
- 45. A
- 46. C
- 47. C
- 48. B
- 49. A
- 50. D
- 51. B
- 52. B
- 53. B
- 54. D
- 55. D
- 56. C
- 57. B
- 58. C
- 59. A
- 60. C
- 61. C
- 62. B
- 63. B
- 64. D
- 65. C
- 66. A
- 67. D
- 68. B
- 69. C
- 70. C
- 71. C
- 72. D
- 73. B
- 74. B
- 75. A
- 76. D
- 77. D
- 78. B
- 79. B
- 80. B
- 81. D
- 82. D
- 83. C
- 84. C
- 85. D
- 86. B
- 87. A
- 88. D
- 89. C

- 90. B
- 91. B
- 92. A
- 93. B
- 94. D
- 95. A
- 96. B
- 97. A
- 98. C
- 99. A
- 100. D
- 101. D
- 102. C
- 103. C
- 104. C
- 105. C
- 106. C
- 107. C
- 108. C
- 109. C
- 110. C
- 111. C
- 112. C
- 113. A
- 114. C
- 115. D
- 116. B
- 117. A
- 118. A
- 119. C
- 120. C
- 121. D
- 122. B
- 123. A
- 124. A
- 125. C
- 126. C
- 127. B
- 128. B
- 129. A
- 130. B
- 131. C
- 132. A
- 133. A
- 134. C
- 135. C

- 136. C
- 137. A
- 138. A
- 139. b
- 140. d