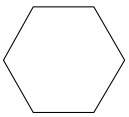
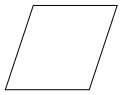
Geometry Final Final Review **Name: _____**

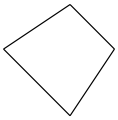
Multiple Choice

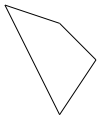
Identify the letter of the choice that best completes the statement or answers the question.

1. Judging by appearances, which figure is a trapezoid?

a. 

c. 

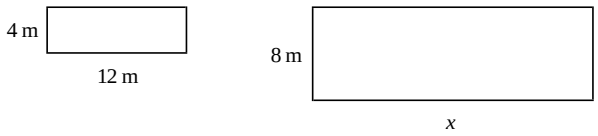
b. 

d. 

2. Which letter has at least one line of symmetry?
   a. K
   b. G
   c. F
   d. X

3. Which statement is true?
   a. All quadrilaterals are squares.
   b. All quadrilaterals are rectangles.
   c. All parallelograms are rectangles.
   d. All rectangles are parallelograms.

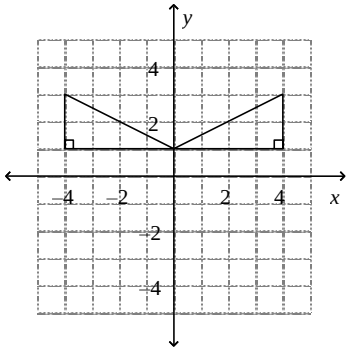
4. The two rectangles are similar. Which is a correct proportion for corresponding sides?

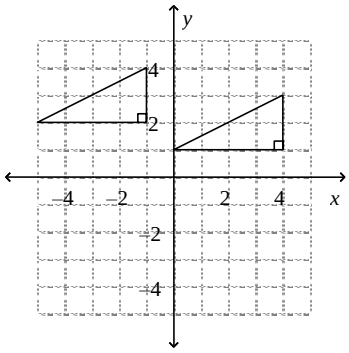


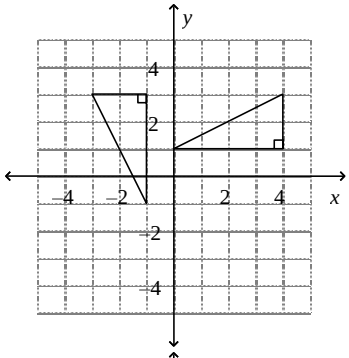
   a. $\frac{12}{8} = \frac{x}{4}$
   b. $\frac{12}{4} = \frac{x}{8}$
   c. $\frac{12}{4} = \frac{x}{20}$
   d. $\frac{4}{12} = \frac{x}{8}$

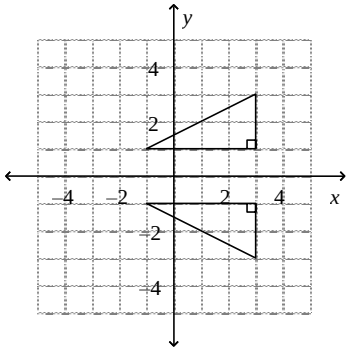
5. Which letter has rotational symmetry?
   a. T
   b. C
   c. O
   d. K

6. Which graph shows a triangle and its reflection image in the *x*-axis?

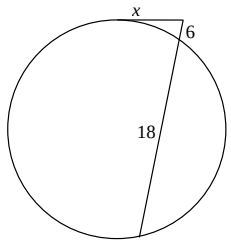
a. 

b. 

c. 

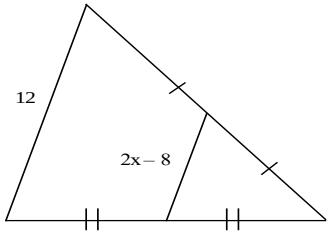
d. 

7. Find the value of *x*.

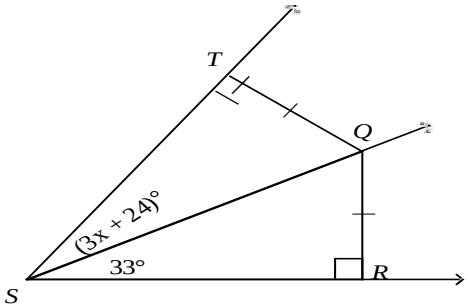


a. 10.39
b. 20.78
c. 12
d. 144

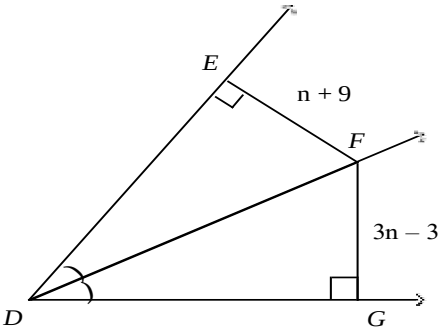
8. Find the value of *x*.



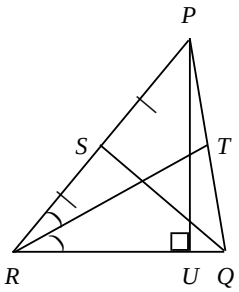
9. *Q* is equidistant from the sides of $\angle TSR$. Find the value of *x*. The diagram is not to scale.



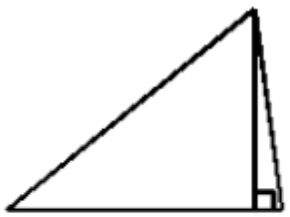
10. $\overrightarrow{DF}$ bisects $\angle EDG$. Find *FG*. The diagram is not to scale.



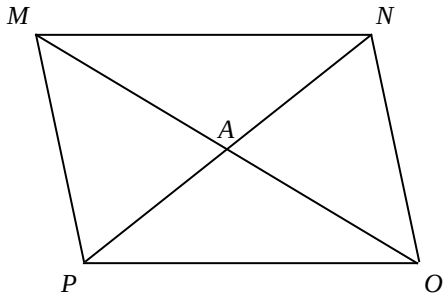
11. Name a median for ΔPQR.



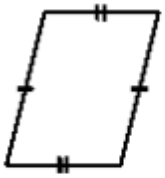
12. What is the name of the segment inside the large triangle?



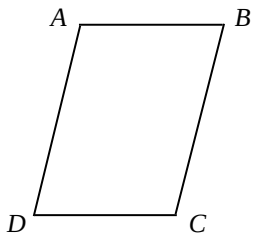
13. Find *AM* in the parallelogram if *PN* =13 and *AO* = 4. The diagram is not to scale.



14. Based on the information in the diagram, can you prove that the figure is a parallelogram? Explain.

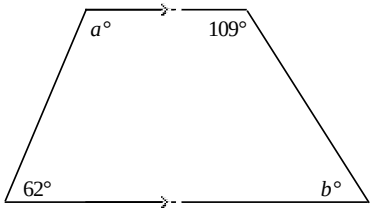


15. If $m\angle B = m\angle D = 36$, find $m\angle C$ so that quadrilateral *ABCD* is a parallelogram. The diagram is not to scale.

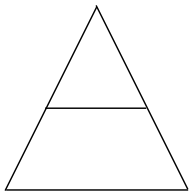


16. *DEFG* is a rectangle. $DF = 4x - 6$ and $EG = x + 6$. Find the value of *x* and the length of each diagonal.

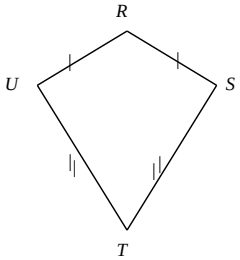
17. Find the values of *a* and *b*.The diagram is not to scale.



18. The isosceles trapezoid is part of an isosceles triangle with a 52° vertex angle. What is the measure of an acute base angle of the trapezoid? Of an obtuse base angle? The diagram is not to scale.

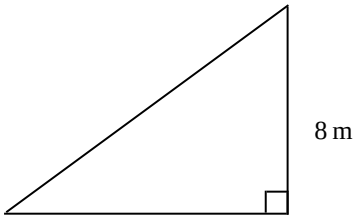


19. $m\angle R = 110$ and $m\angle S = 100$ Find $m\angle T$ The diagram is not to scale.



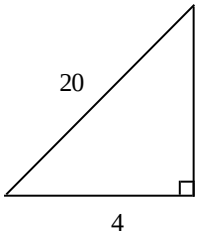
Find the length of the missing side. Leave your answer in simplest radical form.

20.



Not drawn to scale

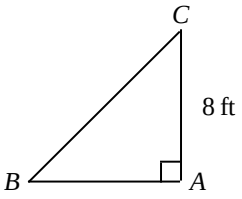
21.



Not drawn to scale

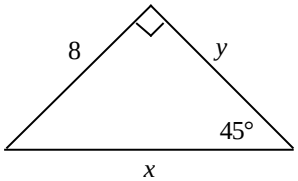
22. A triangle has side lengths of 8 cm, 15 cm, and 17 cm. Classify it as acute, obtuse, or right.

23. In triangle ABC, $m\angle A$ is a right angle and $m\angle B = 45°$. Find BC. If you answer is not an integer, leave it in simplest radical form.



Not drawn to scale

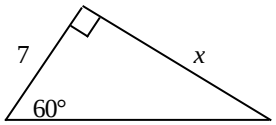
24. Find the lengths of the missing sides in the triangle. Write your answers as integers or as decimals rounded to the nearest tenth.



Not drawn to scale

Find the value of the variable(s). If your answer is not an integer, leave it in simplest radical form.

25.



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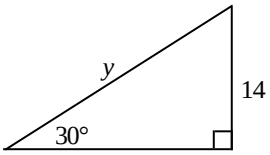
26.



Not drawn to scale

27. A model is made of a car. The car is 8 feet long and the model is 9 inches long. What is the ratio of the length of the car to the length of the model?

Solve the proportion.

28. $\frac{3y - 8}{12} = \frac{y}{5}$

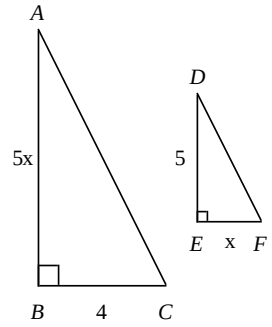
29. $\frac{4}{9} = \frac{m}{72}$

30. $\frac{7}{a} = \frac{21}{24}$

31. On a blueprint, the scale indicates that 5 cm represent 16 feet. What is the length of a room that is 7.5 cm long and 7 cm wide on the blueprint?

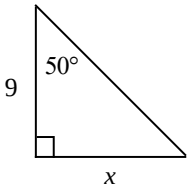
The polygons are similar, but not necessarily drawn to scale. Find the values of *x* and *y*.

32. Triangles *ABC* and *DEF* are similar. Find the lengths of *AB* and *EF*.



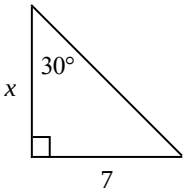
Find the value of *x*. Round your answer to the nearest tenth.

33.



Not drawn to scale

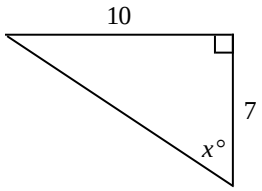
34.



Not drawn to scale

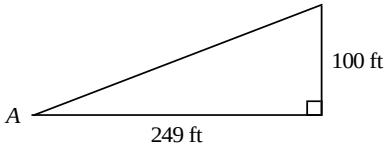
Find the value of *x* to the nearest degree.

35.



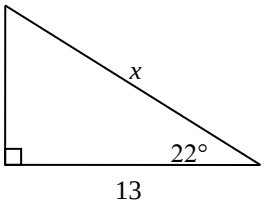
Not drawn to scale

36. A large totem pole in the state of Washington is 100 feet tall. At a particular time of day, the totem pole casts a 249-foot-long shadow. Find the measure of $\angle A$ to the nearest degree.



Find the value of *x*. Round to the nearest tenth for a side or nearest degree for an angle.

37.



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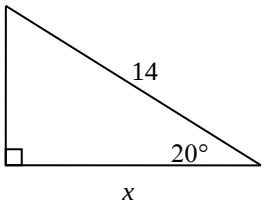
38,



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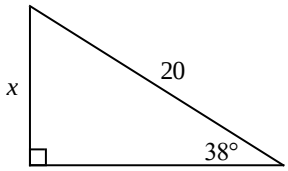
39.



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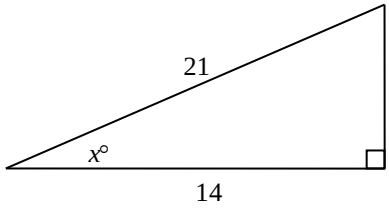
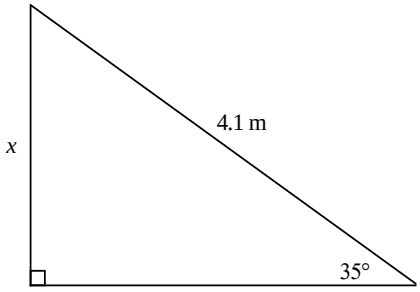
40.

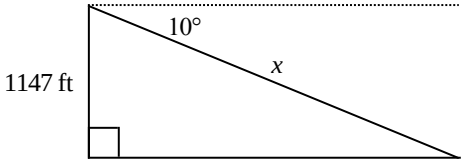


Not drawn to scale

41. A slide 4.1 meters long makes an angle of 35° with the ground. To the nearest tenth of a meter, how far above the ground is the top of the slide?



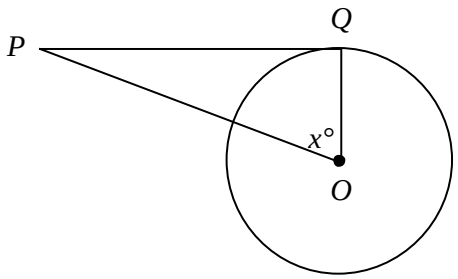
42. To approach the runway, a small plane must begin a 10° descent starting from a height of 1147 feet above the ground. To the nearest tenth of a foot, how many feet from the runway is the airplane at the start of this approach?



Not drawn to scale

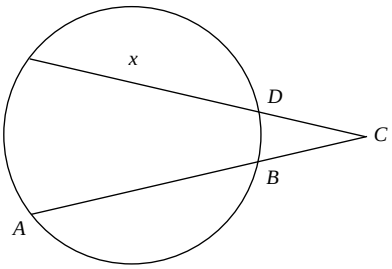
Assume that lines that appear to be tangent are tangent. *O* is the center of the circle. Find the value of *x*. (Figures are not drawn to scale.)

43. $m\angle P = 25°$

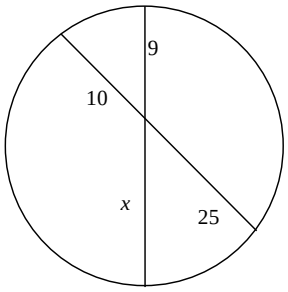


Find the value of *x*. If necessary, round your answer to the nearest tenth. The figure is not drawn to scale.

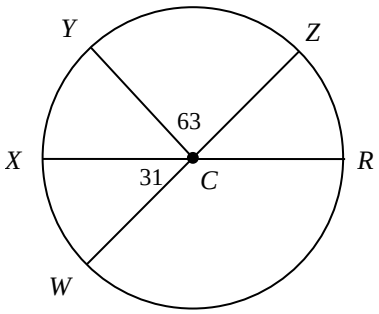
44. $AB = 11$, $BC = 9$, and $CD = 7$



45.



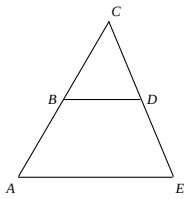
46. $\overline{WZ}$ and $\overline{XR}$ are diameters. Find the measure of ZWX. (The figure is not drawn to scale.)



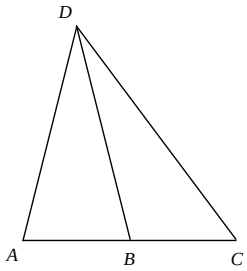
47. The vertices of a triangle are $P(-7, -4)$, $Q(-4, 1)$, and $R(4, 4)$. What are the coordinates of the vertices of the image reflected over the *x*-axis.

48. The vertices of a triangle are $P(-7, 3)$, $Q(2, 3)$, and $R(2, 8)$. Name the vertices of the image reflected over the *y*-axis.

49. *B* is the midpoint of $\overline{AC}$, *D* is the midpoint of $\overline{CE}$, and $AE = 23$. Find *BD*. The diagram is not to scale.

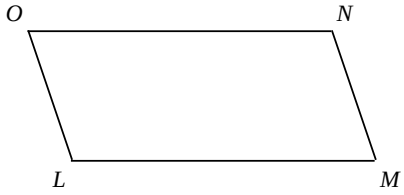


50. Find the length of $\overline{AB}$, given that $\overline{DB}$ is a median of the triangle and $AC = 34$.



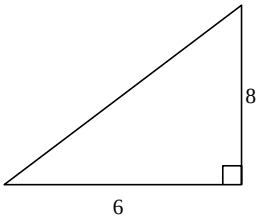
51. $ABCD$ is a parallelogram. If $m\angle CDA = 87°$, then $m\angle BCD =$ ___?

52. $LMNO$ is a parallelogram. If $NM = x + 6$ and $OL = 2x + 4$ find the value of x and then find NM and OL.

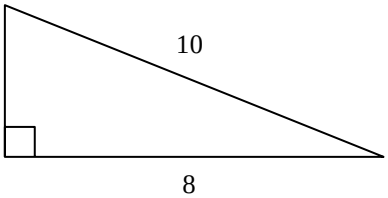


Find the length of the missing side. The triangle is not drawn to scale.

53.

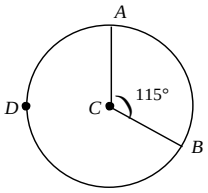


54.

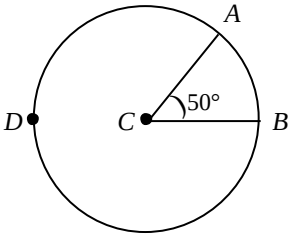


55. A triangle has sides of lengths 6, 8, and 10. Is it a right triangle? Explain.

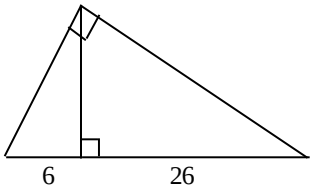
56. Name the minor arc and find its measure.



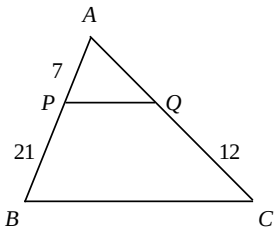
57. Name the major arc and find its measure.



58. Find the length of the altitude drawn to the hypotenuse. The triangle is not drawn to scale.

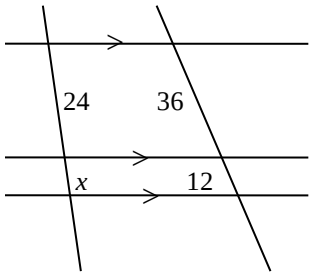


59. Given: $PQ \parallel BC$. Find the length of $\overline{AQ}$. The diagram is not drawn to scale.

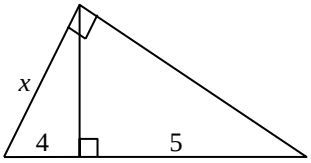


Solve for *x*.

60.



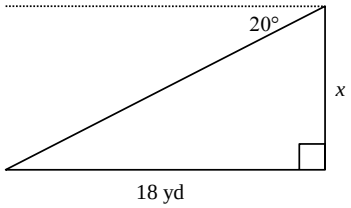
61.



Not drawn to scale

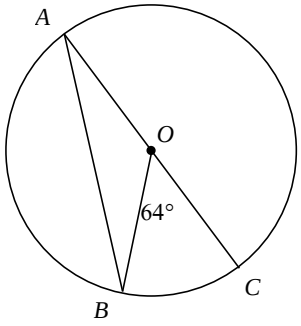
Find the value of *x*. Round the length to the nearest tenth.

62.

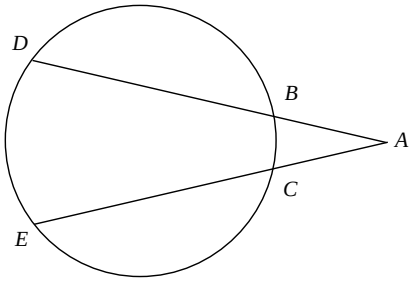


Not drawn to scale

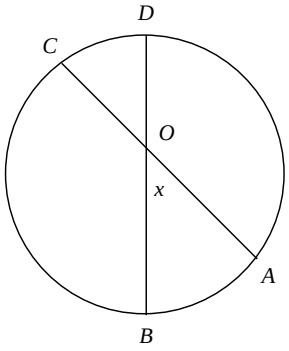
63. Find the measure of $\angle BAC$. (The figure is not drawn to scale.)



64. $mDE = 94°$ and $mBC = 65°$. Find $m\angle A$ to the nearest degree. (The figure is not drawn to scale.)



65. Find the value of x for $mAB = 25°$ and $mCD = 29°$. (The figure is not drawn to scale.)

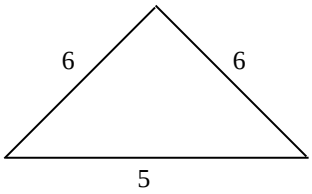


Write the standard equation for the circle.

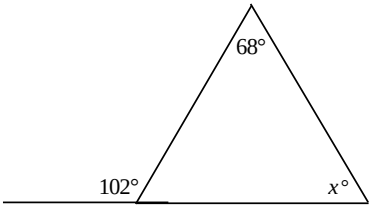
66. center (–5, 4), $r = 8$

67. Find the center and radius of the circle with equation $(x + 6)^2 + (y – 5)^2 = 81$.

68. Classify the triangle by its sides. The diagram is not to scale.

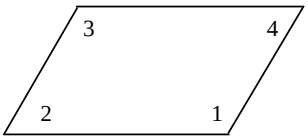


69. Find the value of x. The diagram is not to scale.



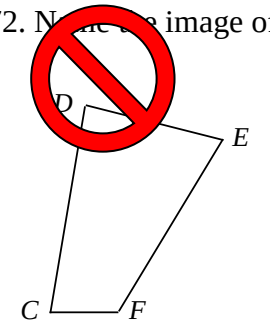
70. $ABCD$ is a parallelogram. If $m\angle BCD = 114°$ then $m\angle DAB =$ _____ ?

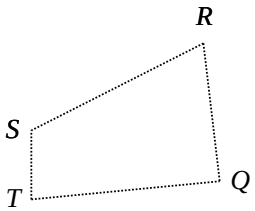
71. For the parallelogram, if $m\angle 2 = 3x - 27$ and $m\angle 4 = 2x - 12$, find $m\angle 1$. The diagram is not to scale.



In the diagram, the dashed figure is the image of the solid figure.

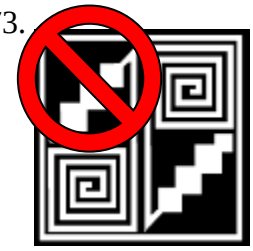
72. Name the image of $\angle E$.



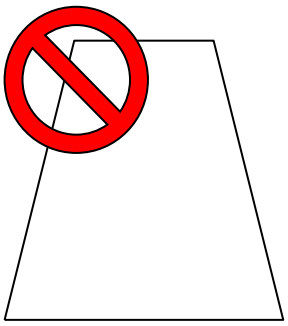


Name the type of symmetry for the figure.

73.



74.



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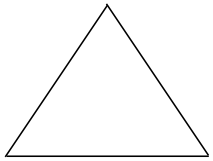
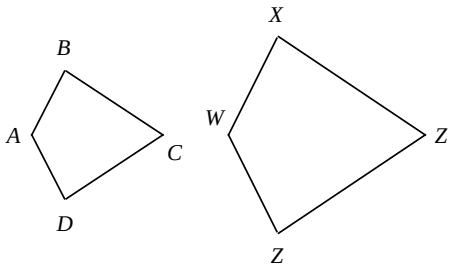
75. How many lines of symmetry does the figure have?

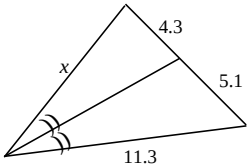


76. If $\frac{a}{b} = \frac{7}{4}$, then $4a =$ ____.

77. *ABCD* ~ *WXYZ*. *AD* = 12, *DC* = 3, and *WZ* = 53. Find *YZ*. The figures are not drawn to scale.

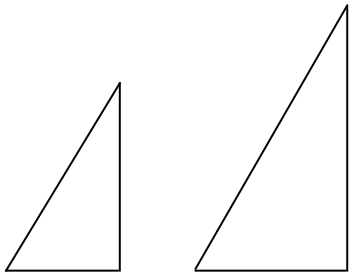


78. Find *x* to the nearest tenth.



Not drawn to scale

79. The figures are similar. Give the ratio of the perimeters of the first figure to the second. The figures are not drawn to scale.



Geometry Final
Answer Section

MULTIPLE CHOICE

1. B

2. D
3. D
4. B
5. C
6. D
7. C

SHORT ANSWER

8. 7
9. 3
10. 15
11. $\overline{QS}$
12. altitude
13. 4
14. Yes; both pairs of opposite sides are congruent.
15. 144
16. $x = 4$, $DF = 10$, $EG = 10$
17. $a = 118, b = 71$
18. 64°; 116°
19. 50
20. $8\sqrt{2}$ m
21. $8\sqrt{6}$ cm
22. right
23. $8\sqrt{2}$ ft
24. $x = 11.3$, $y = 8$
25. $7\sqrt{3}$
26. $x = 14\sqrt{3}$, $y = 28$
27. 32 : 3
28. $\frac{40}{3}$
29. 32
30. 8
31. 24 ft
32. $AB = 10$; $EF = 2$
33. 10.7
34. 12.1
35. 55
36. 22°
37. 14
38. 13.2
39. 12.3
40. 48
41. 2.4 m
42. 1.3 mi
43. 65

44. 18.71
45. 27.8
46. 211
47. $P'(-7, 4), Q'(-4, -1), R'(4, -4)$
48. $P'(7, 3), Q'(-2, 3), R'(-2, 8)$
49. 11.5
50. 17
51. 93
52. $x = 2$, $NM = 8$, $OL = 8$
53. 10
54. 6
55. yes; $6^2 + 8^2 = 10^2$
56. arc AB; 115°
57. arc ADB; 310°
58. $2\sqrt{39}$
59. 4
60. 8
61. 6
62. 6.6 yd
63. 32
64. 14.5
65. 27°
66. $(x + 5)^2 + (y - 4)^2 = 64$
67. center (–6, 5); $r = 9$
68. isosceles
69. 34
70. 114
71. 162
72. $\angle R$
73. rotational
74. reflectional
75. 3
76. $7b$
77. 13.25
78. 9.5
79. 5:6