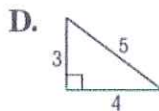
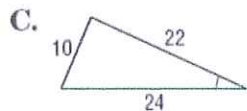
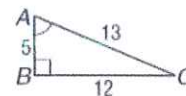
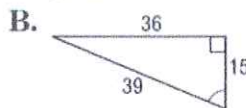
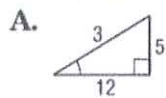


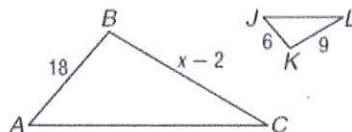
Chapter 6

- There are 15 plums and 9 apples in a fruit bowl. Find the ratio of apples to plums.
 A. 3:5 B. 3:8 C. 5:3 D. 8:3
- The scale drawing of a porch is 8 inches wide by 12 inches long. If the actual porch is 12 feet wide, find the length of the porch.
 A. 8 ft B. 10 ft C. 16 ft D. 18 ft
- Solve $\frac{5}{6} = \frac{4}{x}$.
 A. 4.6 B. 4.8 C. 5 D. 7
- A quality control technician checked a sample of 30 bulbs. Two of the bulbs were defective. If the sample was representative, find the number of bulbs expected to be defective in a case of 450.
 A. 24 B. 30 C. 36 D. 45

5. Find the triangle similar to $\triangle ABC$ at the right.

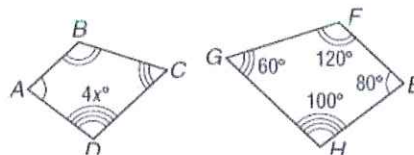


6. Find x if $\triangle ABC \sim \triangle JKL$.
 A. 10 B. 14
 C. 25 D. 29

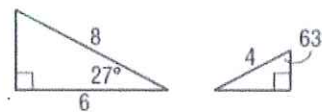


7. Quadrilateral $ABCD \sim$ quadrilateral $PQRS$. If $AB = 10$, $BC = 6$, $PS = 12$, and $QR = 4$, find the scale factor of $ABCD$ to $PQRS$.
 A. $\frac{1}{2}$ B. $\frac{3}{2}$ C. $\frac{5}{3}$ D. $\frac{5}{6}$

8. If quadrilateral $ABCD \sim$ quadrilateral $EFGH$, find x .
 A. 15 B. 20
 C. 25 D. 30

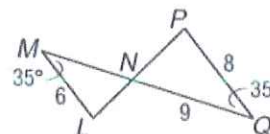


9. Which theorem or postulate can be used to prove that these two triangles are similar?
 A. AA B. SAS C. SSA D. SSS



10. Find MN .

- A. $5\frac{1}{3}$ B. $6\frac{3}{4}$ C. 7 D. 12

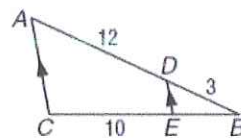


11. A 5-foot tall student cast a 4-foot shadow. If the tree next to her cast a 44-foot shadow, what is the height of the tree?

- A. $35\frac{1}{5}$ ft B. 45 ft C. $51\frac{1}{2}$ ft D. 55 ft

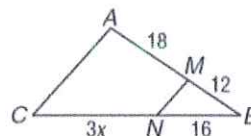
12. In $\triangle ABC$, $\overline{DE} \parallel \overline{AC}$. If $AD = 12$, $BD = 3$, and $CE = 10$, find BE .

- A. 1 B. $1\frac{1}{2}$
C. 2 D. $2\frac{1}{2}$



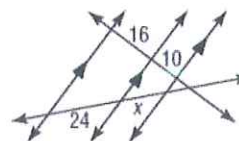
13. Find x so that $\overline{AC} \parallel \overline{MN}$ in $\triangle ABC$.

- A. 8 B. 10
C. 25 D. 29



14. Find x .

- A. 14 B. 15
C. 16 D. 18



15. If $\triangle FGH \sim \triangle PQR$, $FG = 6$, $PQ = 10$, and the perimeter of $\triangle PQR$ is 35, find the perimeter of $\triangle FGH$.

- A. 21 B. 27 C. 31 D. $58\frac{1}{3}$

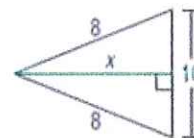
Chapter 7

16. Find the length of the hypotenuse of a right triangle whose legs measure 6 and 5.

- A. 11 B. $\sqrt{11}$
C. $\sqrt{30}$ D. $\sqrt{61}$

17. Find x .

- A. $\sqrt{39}$ B. 6
C. $5\sqrt{3}$ D. 5

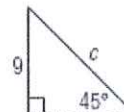


18. Which of the following could represent sides of a right triangle?

- A. $\frac{3}{4}$, 1, $\frac{5}{4}$ B. $\sqrt{3}$, $\sqrt{5}$, $\sqrt{15}$
C. 7, 17, 24 D. 8, 15, 16

19. Find c .

- A. 18 B. $9\sqrt{3}$
C. $9\sqrt{2}$ D. 9

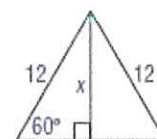


20. Find the perimeter of a square to the nearest tenth if the length of its diagonal is 16 millimeters.

- A. 11.3 mm B. 45.3 mm
C. 90.5 mm D. 128.0 mm

21. Find x .

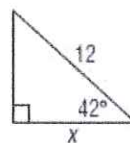
- A. 6 B. $6\sqrt{2}$
C. $6\sqrt{3}$ D. $12\sqrt{3}$



22. Find x .

- A. 8.0
C. 10.4

- B. 8.9
D. 10.8



23. In right triangle ABC , $a = 14$, $b = 48$, and $c = 50$. Find $\tan \angle A$.

A. $\frac{7}{24}$

B. $\frac{7}{25}$

C. $\frac{24}{25}$

D. $\frac{24}{7}$

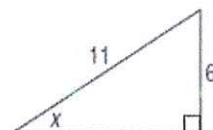
24. Find x to the nearest tenth of a degree.

A. 56.9

B. 54.5

C. 33.1

D. 28.6



25. If a 24-foot ladder makes a 58° angle with the ground, how many feet up a wall will it reach? Round your answer to the nearest tenth.

A. 38.4 ft

B. 20.8 ft

C. 20.4 ft

D. 12.7 ft

26. In $\triangle ABC$, $m\angle A = 46$, $m\angle B = 105$, and $c = 19.8$. Find a to the nearest tenth.

A. 29.4

B. 28.5

C. 15.7

D. 14.7

27. In $\triangle LMN$, $l = 42$, $m = 61$, and $m\angle N = 108$. Find n to the nearest tenth.

A. 7068.4

B. 84.1

C. 79.2

D. 24.7

Chapter 8

28. Find the sum of the measures of the interior angles of a convex 50-gon.

A. 9000

B. 8640

C. 360

D. 172.8

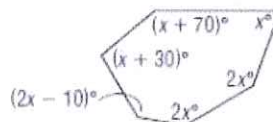
29. Find x .

A. 16

B. 34

C. 50

D. 70



30. Find the sum of the measures of the exterior angles of a convex 65-gon.

A. 5.54

B. 90

C. 180

D. 360

31. Which of the following is a property of all parallelograms?

A. Each pair of opposite angles is congruent.

B. Only one pair of opposite sides is congruent.

C. Each pair of opposite angles is supplementary.

D. There are four right angles.

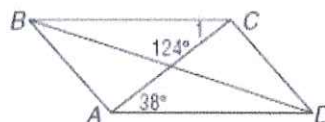
32. Find $m\angle 1$ in parallelogram $ABCD$.

A. 19

B. 38

C. 52

D. 56



33. $ABCD$ is a parallelogram with diagonals intersecting at E . If $AE = 4x - 8$ and $EC = 36$, find x .

A. 7

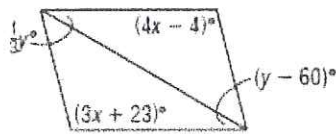
B. 11

C. 15.5

D. 38

34. Find x and y so that this quadrilateral is a parallelogram.

- A. $x = 27, y = 90$ B. $x = 27, y = 40$
 C. $x = 13, y = 90$ D. $x = 13, y = 40$

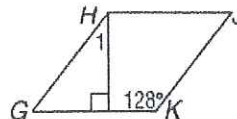


35. $ABCD$ is a rectangle. If $AB = 7x - 6$ and $CD = 5x + 30$, find x .

- A. $5\frac{1}{2}$ B. 12 C. 13 D. 18

36. Find $m\angle 1$ in rhombus $GHJK$.

- A. 90 B. 64
 C. 52 D. 38



37. The diagonals of square $ABCD$ intersect at E . If $AE = 3x - 4$ and $BD = 10x - 48$, find AC .

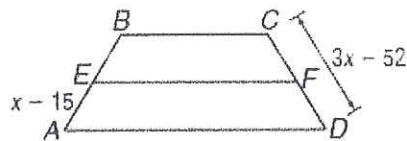
- A. 90 B. 52 C. 26 D. 10

38. The length of one base of a trapezoid is 19 meters and the length of the median is 23 meters. Find the length of the other base.

- A. 15 m B. 21 m C. 27 m D. 42 m

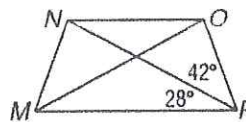
39. \overline{EF} is the median of isosceles trapezoid $ABCD$. Find x .

- A. 22 B. 18.5
 C. 42.5 D. 82



40. Find $m\angle MNP$ in isosceles trapezoid $MNOP$.

- A. 42 B. 70
 C. 82 D. 98

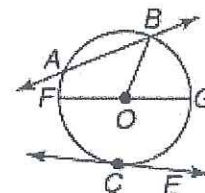


Chapter 10

66. Name a diameter.

A. \overline{FG}
C. \overline{AB}

B. \overline{AB}
D. \overline{CE}



67. Name a chord.

A. \overline{FO}

B. \overline{AB}

C. \overline{AB}

D. \overline{CE}

68. Name a secant.

A. \overline{FO}

B. \overline{AB}

C. \overline{AB}

D. \overline{CE}

69. If the diameter of a circle is 10 inches, find the circumference to the nearest hundredth.

A. 15.71 in.

B. 31.42 in.

C. 62.83 in.

D. 314.16 in.

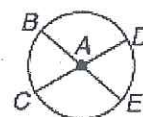
70. If $m\angle BAD = 110$ in $\odot A$, find $m\widehat{DE}$.

A. 35

B. 55

C. 70

D. 110



71. Points X and Y lie on $\odot P$ so that $PX = 5$ meters and $m\angle XPY = 90$. Find the length of \widehat{XY} to the nearest hundredth.

A. 3.93 m

B. 7.85 m

C. 15.71 m

D. 19.63 m

72. Chords \overline{XY} and \overline{WV} are equidistant from the center of $\odot O$. If $XY = 2x + 30$ and $WV = 5x - 12$, find x .

A. 58

B. 28

C. 14

D. 6

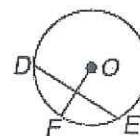
73. Find the radius of $\odot O$ if $DE = 12$ inches and \overline{DE} bisects \overline{OF} .

A. $2\sqrt{3}$ in.

B. 6 in.

C. 8 in.

D. $4\sqrt{3}$ in.



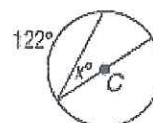
74. Find x .

A. 122

B. 61

C. 58

D. 29



75. $EFGH$ is a quadrilateral inscribed in $\odot P$ with $m\angle E = 72$ and $m\angle F = 49$. Find $m\angle H$.

A. 131

B. 108

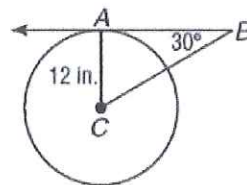
C. 90

D. 57

76. If \overline{AB} is tangent to $\odot C$ at A , find BC .

- A. 6 in.
C. $12\sqrt{3}$ in.

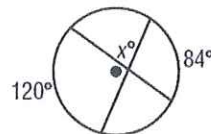
- B. $4\sqrt{3}$ in.
D. 24 in.



77. Find x .

- A. 78
C. 102

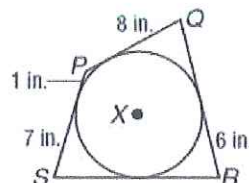
- B. 90
D. 156



78. \overline{PQ} , \overline{QR} , \overline{RS} , and \overline{SP} are tangent to $\odot X$. Find RS .

- A. 9 in.
C. 13 in.

- B. 12 in.
D. cannot tell



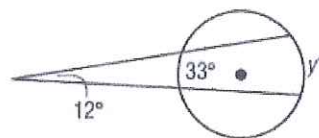
79. $\odot A$ has its center at $A(3, 2)$, and \overline{CB} is tangent to $\odot A$ at $B(6, 4)$. Find the slope of \overline{CB} .

- A. 1
B. $\frac{1}{2}$
C. $-\frac{3}{2}$
D. $-\frac{1}{2}$

80. Find y .

- A. 66
C. 45

- B. 57
D. 21



81. Find the center of the circle whose equation is $(x + 11)^2 + (y - 7)^2 = 121$.

- A. $(-11, 7)$
B. $(11, -7)$
C. $(121, 49)$
D. 11

82. Find the equation of a circle whose center is at $(2, 3)$ and radius is 6.

- A. $(x + 2)^2 + (y + 3)^2 = 6$
B. $(x - 2)^2 + (y - 3)^2 = 6$
C. $(x + 2)^2 + (y + 3)^2 = 36$
D. $(x - 2)^2 + (y - 3)^2 = 36$

83. Find the equation of $\odot P$.

- A. $x^2 + (y - 3)^2 = 4$
B. $x^2 + (y - 3)^2 = 2$
C. $(x - 3)^2 + y^2 = 2$
D. $(x - 3)^2 + y^2 = 4$

