Multiple Choice: ***Identify the choice that best completes the statement or answers the question.*** **SHOW ALL WORK FOR CREDIT.**

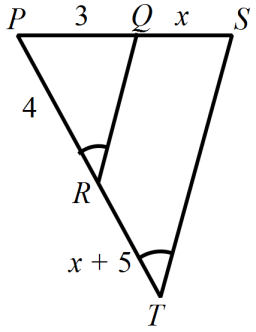
1. Find the length of $\overline{PS}$ in the diagram below.

A. $PS = 18$

B. $PS = 6$

C. $PS = 8$

D. $PS = 15$



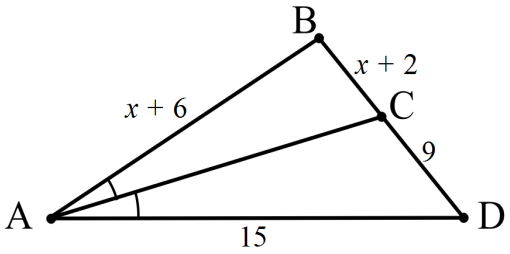
2. Find the perimeter of ΔABD.

A. 4

B. 15

C. 30

D. 40



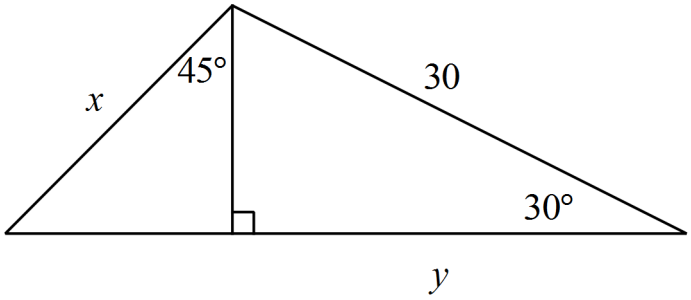
3. Find $x - y$.

A. $15 - 15\sqrt{2}$

B. $15\sqrt{3} - 15$

C. $15\sqrt{3} - 15\sqrt{2}$

D. $15\sqrt{2} - 15\sqrt{3}$



4. A 16 $foot$ ladder is leaning up against the side of a house. The ladder is placed 13 $feet$ from the side of the house. What is the angle of elevation of the ladder?

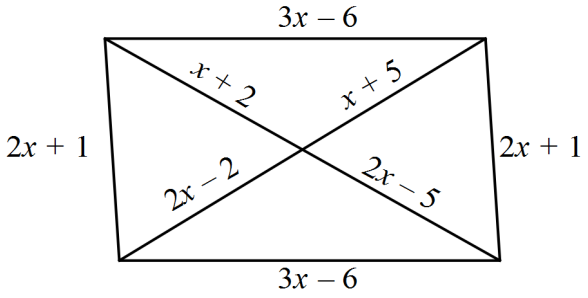
A. 35.7°

B. 39.1°

C. 50.2°

D. 54.3°

5. Based on the figure below, which statements are true?



I. The figure is a rectangle

II. The figure is a rhombus

III. $x + 5 = 2x - 5$

IV. $x + 2 = 2x - 5$

V. $x = 6$

VI. The longest side has a length of 15.

A. I, III, and V

B. I, IV, and VI

C. II, IV, and VI

D. II, III, and V

6. Which of the following is **not** always true of parallelogram $ABCD$?

A. $\overline{AB} \cong \overline{CD}, \overline{AD} \cong \overline{BC}$

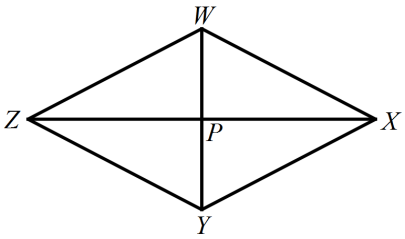
B. $\overline{AB} // \overline{DC}, \overline{BC} // \overline{AD}$

C. $m\angle A + m\angle C = 180°$

D. $AB + BC = AD + DC$

7. Given the following information, find the perimeter of WXYZ

- WXYZ is a rhombus
- $WP = 4x - 4$
- $PX = 5x$
- $ZP = 3x + 6$



A. 68

B. 17

C. 16

D. 57

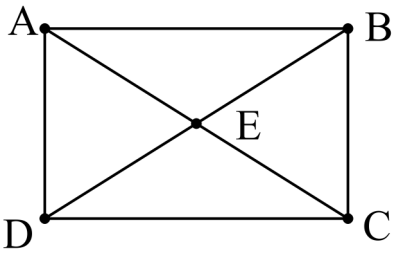
8. Which set of information would NOT allow you to prove that parallelogram ABCD is a rectangle?

A. $\overline{AE} \cong \overline{DE}$

B. $\overline{AE} \cong \overline{EC}$

C. $\angle DAB \cong \angle ABC$

D. All angles of the parallelogram are congruent.



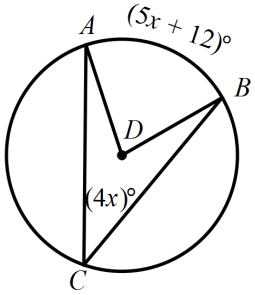
9. Given $\overset{\frown}{mAC} = \overset{\frown}{mBC}$ and $\angle ADB$ is a central angle, what is the value of x and $\overset{\frown}{mBC}$?

A. $x = 12,\ \overset{\frown}{mBC} = 144°$

B. $x = 12,\ \overset{\frown}{mBC} = 72°$

C. $x = 4,\ \overset{\frown}{mBC} = 32°$

D. $x = 4,\ \overset{\frown}{mBC} = 164°$



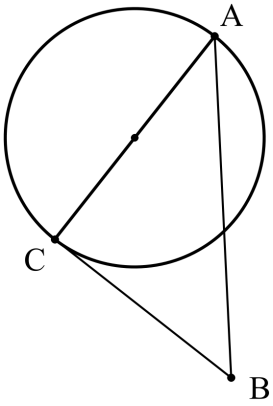
10. $\overline{BC}$ is tangent to the circle at C.
Find the circumference of the circle shown if AB = 20 and BC = 16.

A. 36π

B. 32π

C. 20π

D. 12π



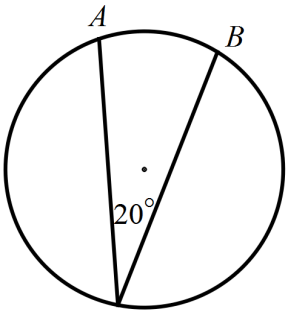
11. What is the length of the $\overset{\frown}{AB}$ in the circle with area = 278 m^2 ?

A. 11.2 cm

B. 9.4 cm

C. 6.6 cm

D. 3.3 cm



12. Using the triangle below, which statements are true if $sin\ F = \frac{24}{51}$?
Choose all that apply

A. $\cos F = \frac{45}{51}$

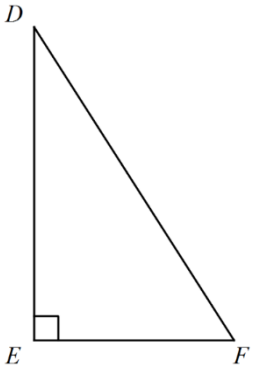
B. $\tan F = \frac{45}{24}$

C. $\tan F = \frac{24}{51}$

D. $\tan(90 - \angle F) = \frac{45}{24}$

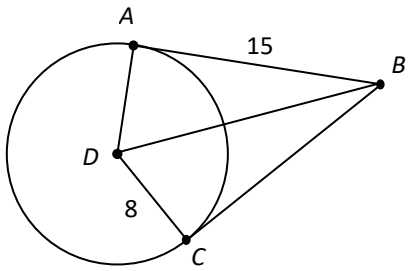
E. $\cos D = \frac{45}{51}$

F. $\cos(90 - \angle D) = \frac{45}{51}$



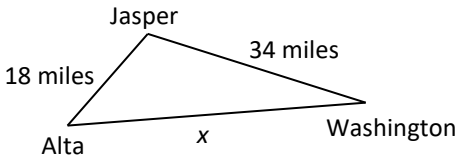
13. In circle D, $\overline{AB}$ is tangent at A, and $\overline{CB}$ is tangent at C. What is the length of $\overline{BD}$?

(A) 23
(B) 17
(C) 16
(D) 15



14. Three towns form a triangle on the map.
Which value of x is NOT a possible distance between Alta and Washington? Choose all that apply.

(A) 10 miles
(B) 20 miles
(C) 30 miles
(D) 52 miles

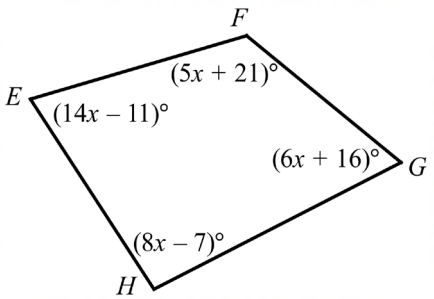


15. If $\overline{BC} < \overline{AC}$ in ΔABC, then which of the following statements must be true?

A. $\angle A < \angle C$
B. $\angle B > \angle A$
C. $\overline{AB} > \overline{AC}$
D. $\overline{BC} > \overline{AB}$

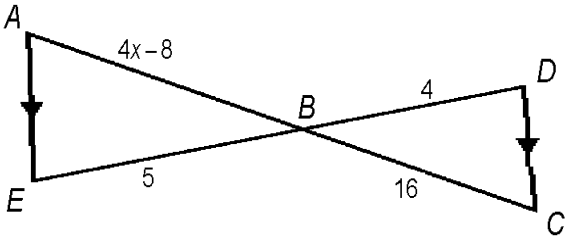
16. Given quadrilateral $EFGH$ below, what is x ?

A. $x = 9.7$
B. $x = 10.3$
C. $x = 5.7$
D. $x = 5.2$

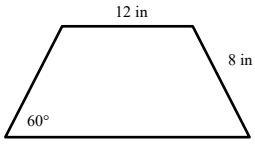


17. Find AB .

A. $AB = 7$
B. $AB = 4$
C. $AB = 20$
D. $AB = 12$



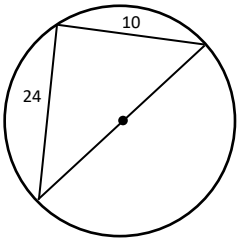
18. Find the area of the isosceles trapezoid.



A. $32\sqrt{3}\ in^2$ B. $96\ in^2$

C. $128\sqrt{3}\ in^2$ D. $64\sqrt{3}\ in^2$

19. Find the area of the circle shown.



A. 13π B. 169π

C. 26π D. 52π

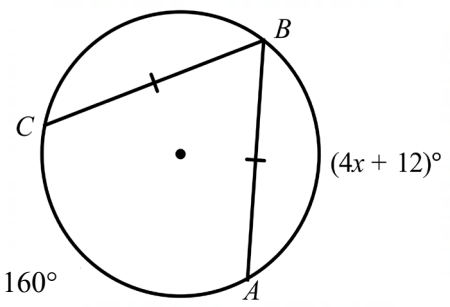
20. What is the value of x to the nearest tenth?

A. $x = 15$

B. $x = 18$

C. $x = 21$

D. $x = 22$



21. Find the area of a sector whose measure is 60°, if the circumference of the circle is $12\pi\ ft$.

A. $6\pi\ ft^2$ B. $12\pi\ ft^2$ C. $6\pi\ ft^2$ D. $36\pi\ ft^2$

22. Find the radius of a sphere whose volume is $36\pi\ m^3$.

A. 6 m B. 9 m C. 3 m D. 12 m

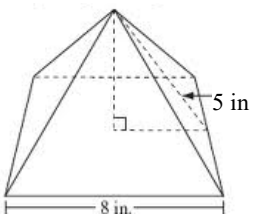
23. Given a triangle with the following side lengths: 5in, $3\sqrt{2}$ in, and 4 in. Classify the triangle as right, acute, obtuse.

A. Right B. Acute C. Obtuse D. Not a triangle.

24. Find the volume of a pyramid shown below.

A. $192\ in^2$ B. $64\ in^2$

C. $\frac{320}{3}\ in^2$ D. $40\ in^2$



Answers:

1) A	2) D	3) D	4) A	5) C	6) C	7) A
8) B	9) D	10) D	11) C	12) A,D,F	13) B	14) A,D
15) B	16) B	17) C	18) D	19) B	20) D	21) A
22) C	23) B	24) B				