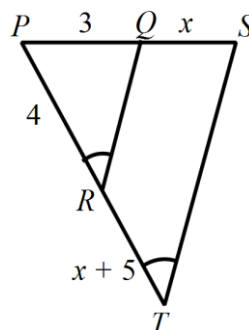


Multiple Choice: *Identify the choice that best completes the statement or answers the question. SHOW ALL WORK FOR CREDIT.*

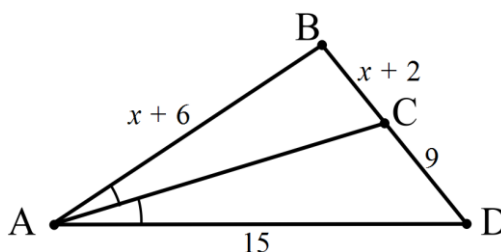
1. Find the length of $\overline{PS}$ in the diagram below.

- A. $PS = 18$
- B. $PS = 6$
- C. $PS = 8$
- D. $PS = 15$



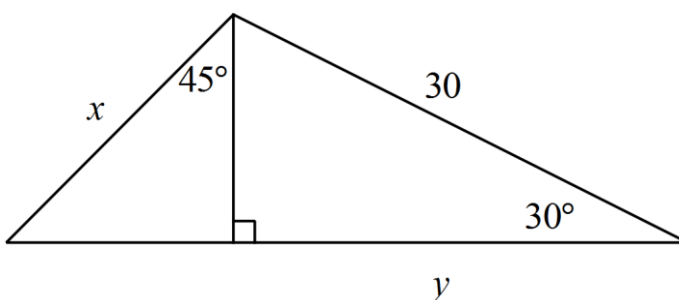
2. Find the perimeter of $\triangle ABD$.

- A. 4
- B. 15
- C. 30
- D. 40



3. Find $x - y$.

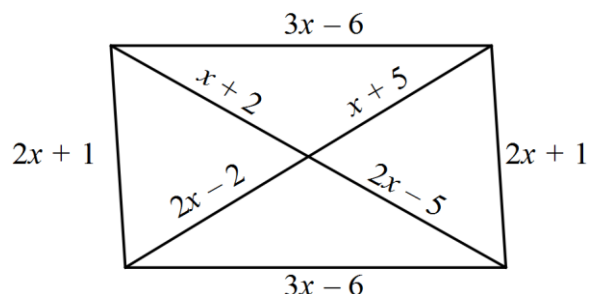
- A. $15 - 15\sqrt{2}$
- B. $15\sqrt{3} - 15$
- C. $15\sqrt{3} - 15\sqrt{2}$
- D. $15\sqrt{2} - 15\sqrt{3}$



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° | C. 50.2° |
| B. 39.1° | 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.

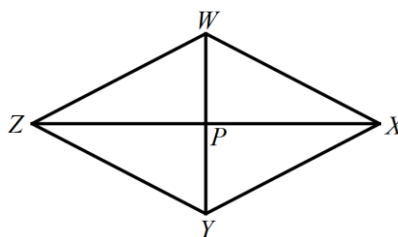
- A. I, III, and V
 B. I, IV, and VI
 C. II, IV, and VI
 D. II, III, and V

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

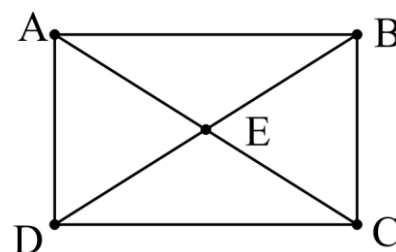
- A. $\overline{AB} \cong \overline{CD}, \overline{AD} \cong \overline{BC}$
 B. $\overline{AB} \parallel \overline{DC}, \overline{BC} \parallel \overline{AD}$
 C. $m\angle A + m\angle C = 180^\circ$
 D. $AB + BC = AD + DC$

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.



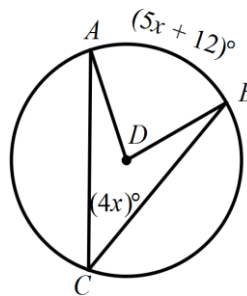
9. Given $m\widehat{AC} = m\widehat{BC}$ and $\angle ADB$ is a central angle, what is the value of x and $m\widehat{BC}$?

A. $x = 12$, $m\widehat{BC} = 144^\circ$

B. $x = 12$, $m\widehat{BC} = 72^\circ$

C. $x = 4$, $m\widehat{BC} = 32^\circ$

D. $x = 4$, $m\widehat{BC} = 164^\circ$



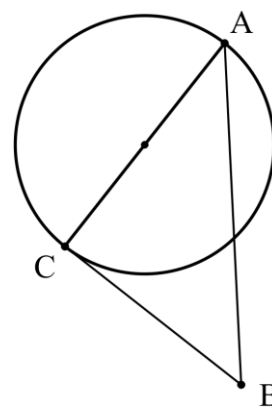
10. $\overline{BC}$ is tangent to the circle at C.
Find the circumference of the circle shown if $AB = 20$ and $BC = 16$.

A. 36π

B. 32π

C. 20π

D. 12π



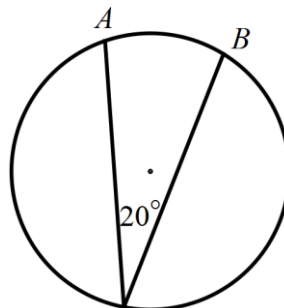
11. What is the length of the $\widehat{AB}$ in the circle with area $= 278 \text{ m}^2$?

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

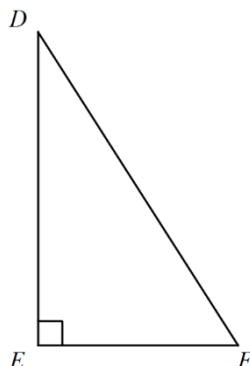
B. $\tan F = \frac{45}{24}$

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

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

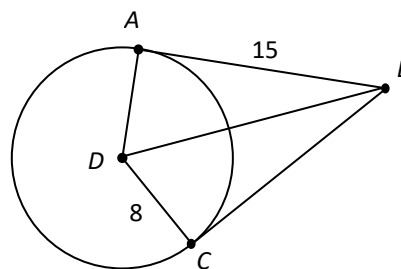
E. $\cos D = \frac{45}{51}$

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



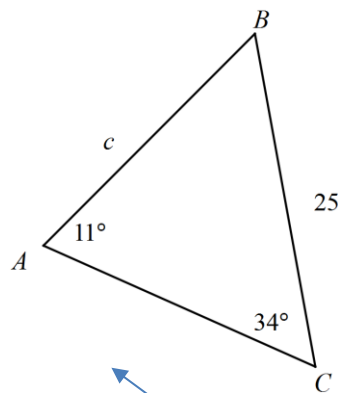
13. In circle D , $\overline{AB}$ is tangent at A , and $\overline{CB}$ is tangent at C . What is the length of $\overline{BD}$?

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



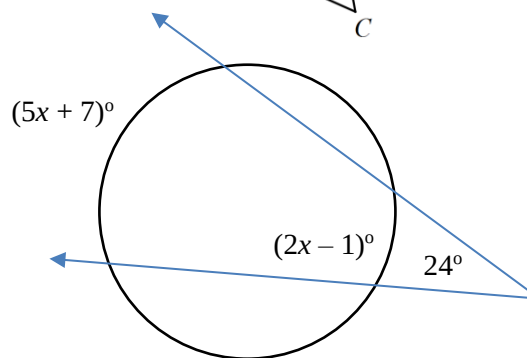
14. Solve for the missing variable.

- (A) $c = 13.98$
(B) $c = 8.53$
(C) $c = 73.27$
(D) $c = 77.27$



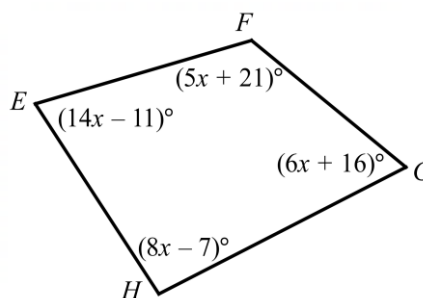
15. Solve for the missing variable.

- A. $x = 6$
B. $x = 13.33$
C. $x = 14$
D. $x = 8.2$



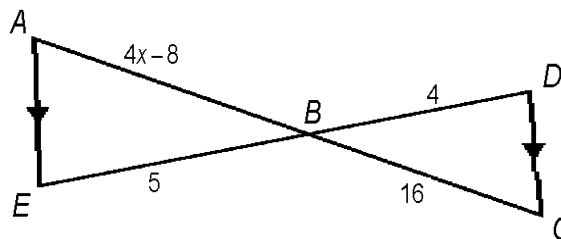
16. Given quadrilateral $EFGH$ below, what is x ?

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



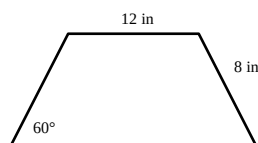
17. Find AB .

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



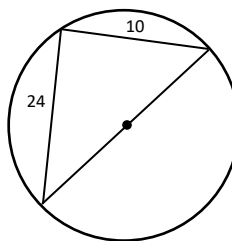
18. Find the area of the isosceles trapezoid.

- A. $32\sqrt{3} \text{ in}^2$ B. 96 in^2
 C. $128\sqrt{3} \text{ in}^2$ D. $64\sqrt{3} \text{ in}^2$



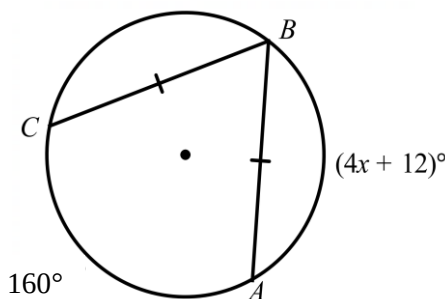
19. Find the area of the circle shown.

- 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 $12\pi \text{ ft}$.

- A. $6\pi \text{ ft}^2$ B. $12\pi \text{ ft}^2$ C. $6\pi \text{ ft}^2$ D. $36\pi \text{ ft}^2$

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

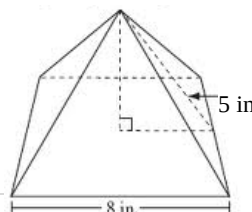
- A. 6 m B. 9 m C. 3 m D. 12 m

23. Given a triangle with the following side lengths: 5 in, $3\sqrt{2}$ 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. $\frac{320}{3} \text{ in}^2$ 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) C |
| 15) B | 16) B | 17) C | 18) D | 19) B | 20) D | 21) A |
| 22) C | 23) B | 24) B | | | | |