Perimeter and Area Quiz

Multiple Choice
Identify the choice that best completes the statement or answers the question.

1. Find the perimeter of the rectangle. The drawing is not to scale.

   ___________ ft

   A. 151 ft  B. 208 ft  C. 161 ft  D. 104 ft

2. Ken is adding a ribbon border to the edge of his kite. Two sides of the kite measure 9.5 inches, while the other two sides measure 17.8 inches. How much ribbon does Ken need?

   A. 45.1 in.  B. 27.3 in.  C. 54.6 in.  D. 36.8 in.

3. Jose wants to put a fence around his rectangular garden. His garden measures 33 feet by 39 feet. The garden has a path around it that is 3 feet wide. How much fencing material does Jose need to enclose the garden and path?

   A. 120 ft  B. 156 ft  C. 168 ft  D. 84 ft

4. Find the circumference of the circle to the nearest tenth. Use 3.14 for $\pi$.

   ___________ m

   A. 2461.8 m  B. 175.8 m  C. 87.9 m  D. 351.7 m

5. Find the circumference of the circle in terms of $\pi$.

   ___________ \text{in.}

   A. 156\pi \text{in.}  B. 39\pi \text{in.}  C. 1521\pi \text{in.}  D. 78\pi \text{in.}
6. Find the perimeter of \( \triangle ABC \) with vertices \( A(1, 1), B(7, 1), \) and \( C(1, 9) \).

a. 114 units  
b. 24 units  
c. 28 units  
d. 14 units

7. Find the perimeter of parallelogram \( ABCD \) with vertices \( A(-2, 2), B(4, 2), C(-6, -1), \) and \( D(0, -1) \).

a. 22 units  
b. 11 units  
c. 28 units  
d. 31 units
8. Jennifer has 78 feet of fencing to make a rectangular vegetable garden. Which dimensions will give Jennifer the garden with greatest area? The diagrams are not to scale.

a. 

b. 

c. 

d. 

9. If the perimeter of a square is 72 inches, what is its area?

a. 72 in.² 

b. 324 in.² 

c. 18 in.² 

d. 5,184 in.² 

10. Find the area of a rectangle with base of 2 yd and a height of 5 ft.

a. 10 yd² 

b. 30 ft² 

c. 10 ft² 

d. 30 yd² 

11. Find the area of the circle in terms of π.

a. 42π in.² 

b. 1764π in.² 

c. 441π in.² 

d. 84π in.² 

12. Find the area of the circle to the nearest tenth. Use 3.14 for π.

a. 30.5 in.² 

b. 295.4 in.² 

c. 60.9 in.² 

d. 73.9 in.²
13. Find, to the nearest tenth, the area of the region that is inside the square and outside the circle. The circle has a diameter of 14 inches.

\[
\text{Area} = \frac{1}{2} \pi d^2 - \pi r^2
\]

where \(d = 14\) inches is the diameter, and \(r = 7\) inches is the radius.

a. 42.1 in.\(^2\)  
b. 10.5 in.\(^2\)  
c. 153.9 in.\(^2\)  
d. 196 in.\(^2\)

14. The figure is formed from rectangles. Find the total area. The diagram is not to scale.

\[
\text{Area} = (10 \times 8) + (2 \times 2) = 80 + 4 = 84 \text{ ft}^2
\]

a. 104 ft\(^2\)  
b. 36 ft\(^2\)  
c. 80 ft\(^2\)  
d. 68 ft\(^2\)

15. Find the area. The figure is not drawn to scale.

\[
\text{Area} = \frac{1}{2} \times b \times h = \frac{1}{2} \times 7.6 \times 3.7 = 13.82\text{ cm}^2
\]

a. 28.12 cm\(^2\)  
b. 3.9 cm\(^2\)  
c. 11.3 cm\(^2\)  
d. 56.24 cm\(^2\)

16. Find the area. The figure is not drawn to scale.

\[
\text{Area} = \frac{1}{2} \times (40 - 33) \times 36 = \frac{7}{2} \times 36 = 117\text{ in}^2
\]

a. 1188 in.\(^2\)  
b. 69 in.\(^2\)  
c. 138 in.\(^2\)  
d. 1440 in.\(^2\)
17. \begin{align*}
\text{a. } 30 \text{ yd}^2 \\
\text{b. } 6.5 \text{ yd}^2 \\
\text{c. } 13 \text{ yd}^2 \\
\text{d. } 15 \text{ yd}^2
\end{align*}

18. \begin{align*}
\text{a. } 10.8 \text{ cm}^2 \\
\text{b. } 5.4 \text{ cm}^2 \\
\text{c. } 21.6 \text{ cm}^2 \\
\text{d. } 7.4 \text{ cm}^2
\end{align*}

19. \begin{align*}
\text{a. } 188 \text{ in.}^2 \\
\text{b. } 278 \text{ in.}^2 \\
\text{c. } 322 \text{ in.}^2 \\
\text{d. } \text{none of these}
\end{align*}

20. \begin{align*}
\text{a. } 144.5 \text{ cm}^2 \\
\text{b. } 127 \text{ cm}^2 \\
\text{c. } 172 \text{ cm}^2 \\
\text{d. } 50 \text{ cm}^2
\end{align*}

21. The area of a parallelogram is 420 cm$^2$ and the height is 35 cm. Find the corresponding base.
\begin{align*}
\text{a. } 385 \text{ cm} \\
\text{b. } 455 \text{ cm} \\
\text{c. } 14,700 \text{ cm}^2 \\
\text{d. } 12 \text{ cm}
\end{align*}
Find the area of a parallelogram with the given vertices.

22. \( P(1, 3), Q(3, 3), R(7, 8), S(9, 8) \)
   a. 10 units\(^2\)   b. 5 units\(^2\)   c. 20 units\(^2\)   d. none of these

23. What is the height \( h \) of the parallelogram?

   [Diagram of parallelogram with labeled sides]

   Not drawn to scale
   a. 32   b. 28   c. 40.5   d. 35

Find the area of the trapezoid. Leave your answer in simplest radical form.

24. 
   [Diagram of trapezoid with labeled sides]

   a. 77.2 in.\(^2\)   b. 80 in.\(^2\)   c. 75 in.\(^2\)   d. 70 in.\(^2\)

25. 
   [Diagram of trapezoid with labeled sides]

   a. 607.32 in.\(^2\)   b. 36.7 in.\(^2\)   c. 303.66 in.\(^2\)   d. 77.2 in.\(^2\)
26. What is the area of the kite?

- [ ] a. 180 ft\(^2\)
- [ ] b. 90 ft\(^2\)
- [ ] c. 72 ft\(^2\)
- [ ] d. 18 ft\(^2\)

27. A kite has diagonals 9.2 ft and 8 ft. What is the area of the kite?

- [ ] a. 36.8 ft\(^2\)
- [ ] b. 8.6 ft\(^2\)
- [ ] c. 73.6 ft\(^2\)
- [ ] d. 34.4 ft\(^2\)

28. Find the area of the rhombus.

- [ ] a. 12 m\(^2\)
- [ ] b. 4096 m\(^2\)
- [ ] c. 128 m\(^2\)
- [ ] d. 32 m\(^2\)
Perimeter and Area Quiz
Answer Section

MULTIPLE CHOICE

1. B
2. C
3. C
4. B
5. D
6. B
7. A
8. A
9. B
10. B
11. C
12. D
13. A
14. D
15. A
16. A
17. D
18. B
19. B
20. A
21. D
22. A
23. A
24. D
25. C
26. B
27. A
28. C