Geometry Unit 8—Perimeter & Area
Practice Test

Good Luck To: _____
Period: _____

1. Define ***geometric probability:***

_____

_____

2. Define ***apothem:***

_____

_____

3. Define ***area:***

_____

_____

Match each formula with its appropriate shape:

4. $A = bh$	A. Square
5. $A = \frac{1}{2}bh$	B. Equilateral Triangle
6. $A = \frac{1}{2}h(b_1 + b_2)$	C. Rhombus
7. $A = \frac{1}{2}d_1d_2$	D. Triangle
8. $A = \frac{1}{4}s^2\sqrt{3}$	E. Trapezoid
9. $A = \pi r^2$	F. Rectangle
10. $A = s^2$	G. Circle

Answers:

4. _____
5. _____
6. _____
7. _____
8. _____
9. _____
10. _____

11. If you had to classify ***circumference*** as either a measure of ***perimeter*** or ***area***, which would you choose? Why?

_____

_____

12. Show, with an example and explanation, why the label for ***perimeter*** is given in ***units*** and the label for ***area*** is always given in ***units***^{2}.

13. A field is 100 m by 130 m. A barn 20 m by 27 m is built in the field. How much area is not covered by the barn?

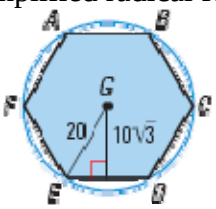
13. _____

14. Find the area and perimeter of an equilateral triangle with side $2\sqrt{3}$ in. Leave answers in simplified radical form.

14. Area = _____

Perimeter = _____

(SE)15. A regular hexagon has an apothem of $10\sqrt{3}$ m and a radius of 20 m. Find the area & perimeter. Leave answers in simplified radical form.

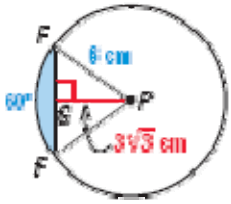


15. Area of hexagon = _____

Perimeter of hexagon = _____

16. The radius of a circle is 6 cm. The distance from the center to chord $\overline{EF}$ is $3\sqrt{3}$ cm. If the measure of $\overset{\frown}{EF}$ is 60°, the area of the shaded region is _____.

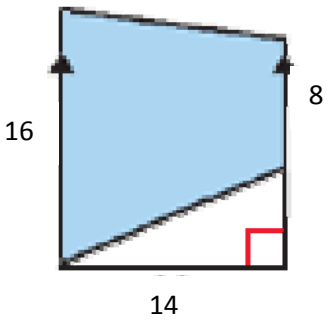
(SE) The circumference of Circle *P* is _____. (Use 3.14 and round to the nearest unit.)



16. Area of shaded region =_____

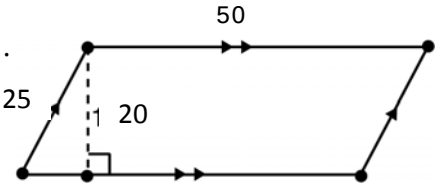
Circumference of Circle P = _____

17. Find the area of the shaded region. All measurements are in feet.



17. Area = _____

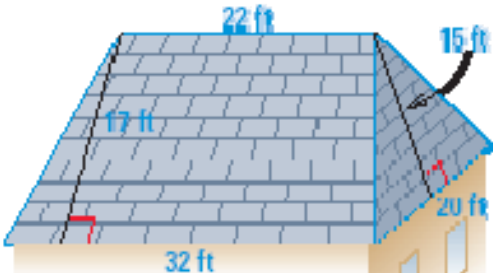
18. Find the area and perimeter. All measurements are given in feet.



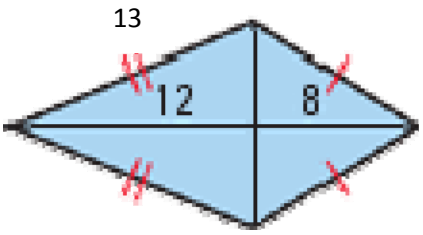
18. Area = _____

Perimeter = _____

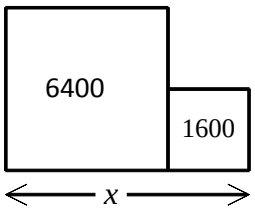
19. The sides of a *hip roof* form two trapezoids and two triangles, as shown. The two sides not shown are congruent to the corresponding sides that are shown.
Find the total area of the sides of the roof.



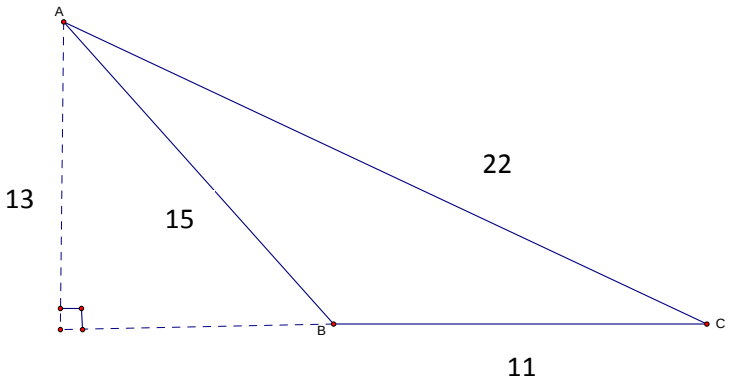
20. Find the area and perimeter. All measurements are given in feet. (Leave answer in simplified radical form)



21. The figure below is made up of two squares with the areas (cm^2) shown. Find x and the perimeter of the entire figure.



22. Find the area and perimeter of Triangle *ABC*. All measurements are given in meters.



19. Area of 1 Trapezoid = _____

Area of 1 Triangle = _____

Total Roof Area = _____

20. Area = _____

Perimeter = _____

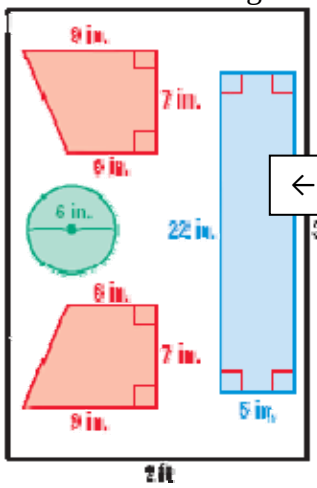
21. x = _____

Perimeter = _____

22. Area = _____

Perimeter = _____

23. Suppose you are at a carnival playing a game in which you throw darts and hit the dart board shown below. A dart is equally likely to hit any point on the dart board. The trapezoidal regions are congruent. What is the area of the large outside rectangle? Hint: Convert to inches!



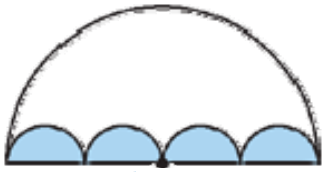
← Figure for questions 23 -26.

24. Find the radius, the circumference, and the area of the circular region. (Leave answers in terms of π)

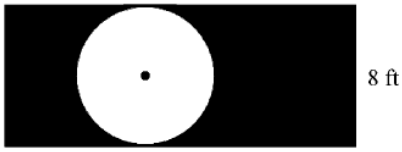
25. What is the probability that a dart lands in the circular region? (Round your answer to the nearest whole percentage.)

26. What is the probability that a dart lands in the shaded rectangular region? (Round your answer to the nearest whole percentage.)

27. Each circle is tangent to the others. If the diameter of the large semicircle is 24, the area of the shaded region is _____.



(SE/PE)28. Logan wants to pour a rectangular slab of concrete around his circular firepit as shown in the diagram below.



What is the area of the shaded region in square feet?

A. $160-8\pi$
B. $160-16\pi$
C. $160-32\pi$
D. $160-64\pi$

23. Area of large outside rectangle = _____

(Did you remember to convert your answer to inches?)

24. Radius of circle = _____

Circum. of circle = _____

Area of circle = _____

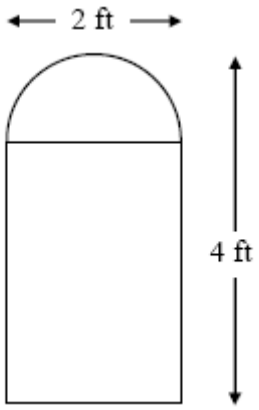
25. _____

26. _____

27. Area of shaded region = _____

28. _____

(SE/PE) 29. The diagram below show a window in the shape of a rectangle with an adjoining semicircle. The overall height of the window is 4 feet; the overall width is 2 feet.

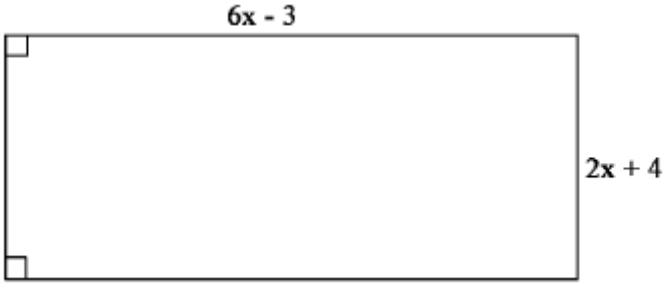


What is the area of the window? (Use $\pi \approx 3.14$)

A. 9.57 square feet
B. 9.14 square feet
C. 7.57 square feet
D. 7.14 square feet

29. _____

(PE)30. Use the rectangle below to answer the following question.



What is the perimeter of the rectangle?

A. $8x-12$
B. $16x+2$
C. $12x^2-12$
D. $12x^2+18x-12$

30. _____

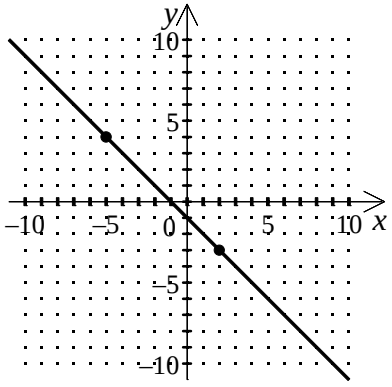
(LTMR) 31. The line $y = -\frac{1}{2}x + 3$ is perpendicular to which line?

A. $y = -2x$ B. $y = 2x - 3$

C. $y = -\frac{1}{2}x + 6$ D. $y = \frac{1}{2}x + 1$

31. _____

(LTMR) 32. Find the slope of the line.



32. _____

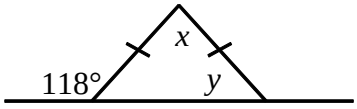
A. $-\frac{5}{4}$

B. 1

C. –1

D. $-\frac{4}{5}$

(LTMR) 33. Find the values of x and y.



33. _____

A. $x = 62°;\ y = 42°$

B. $x = 62°;\ y = 118°$

C. $x = 56°;\ y = 118°$

D. $x = 56°;\ y = 62°$