Geometry Unit 8—Perimeter & Area Test

Good Luck To: _____

Period: _____

1. Define *apothem*:

_____

_____

2. Define *geometric probability*:

_____

_____

3. What is the difference between *circumference & perimeter*?

_____

_____

<table>
<tr><td colspan="2">Match each formula with its appropriate shape:</td><td>Answers:</td></tr>
</table>

Match each formula with its appropriate shape:

4. $A = bh$ A. Regular Polygon   4. _____

5. $A = \dfrac{1}{2}bh$ B. Equilateral Triangle   5. _____

6. $A = \dfrac{1}{2}h(b_1 + b_2)$ C. Circle   6. _____

7. $A = \dfrac{1}{2}d_1 d_2$ D. Triangle   7. _____

8. $A = \dfrac{1}{4}s^2\sqrt{3}$ E. Parallelogram   8. _____

9. $A = \pi r^2$ F. Trapezoid   9. _____

10. $A = \dfrac{1}{2}aP$ G. Kite   10. _____

11. When someone is trying to figure out how much carpeting they need for their living room, are they calculating the *area* or the *perimeter*? How do you know?

_____

_____

12. Show, with an example and explanation, why the label for an *area* problem is always units^2.

13. A field is 200 m by 260 m. A barn 22 m by 29 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 14 in. Leave answers in simplified radical form.
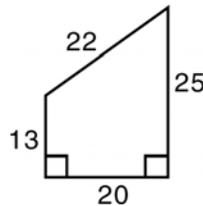
14. Area = _____

    Perimeter = _____

(SE)15. A regular hexagon has an apothem of 2 m and a side length of $\dfrac{4\sqrt{3}}{3}$ m. Find the area and perimeter. Leave answers in simplified radical form.

15. Area = _____
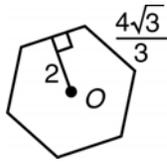
    Perimeter = _____

16. The radius of a circle is $\sqrt{2}$ cm. The distance from the center to chord $\overline{AB}$ is 1 cm. If the measure of $\overset{\frown}{AB}$ is 90°, the area of the shaded region is _____. The circumference of Circle O is _____. (Leave answers in terms of π)

16. Area = _____
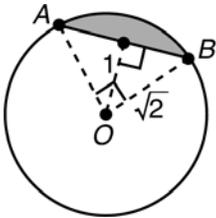
    Circumference = _____

17. Find the area and the perimeter of the figure. All measurements are given in feet.

17. Area = _____

    Perimeter = _____

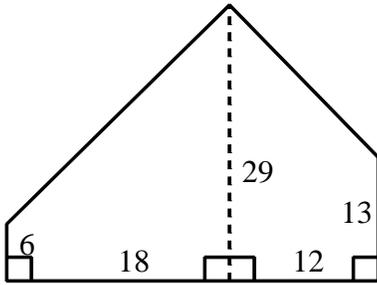18. Find the area and the perimeter of the figure. All measurements are given in meters.
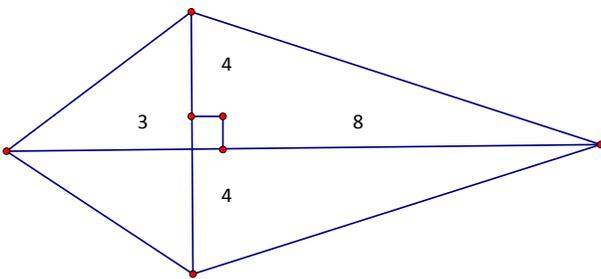

18. Area = _____

    Perimeter = _____

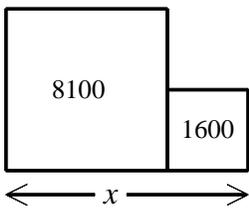19. Find the area of the region shown. All measurements are given in feet.

29

13

6

18

12

20. Find the area & perimeter of the figure. All measurements are given in meters. (Leave answer in simplified radical form)
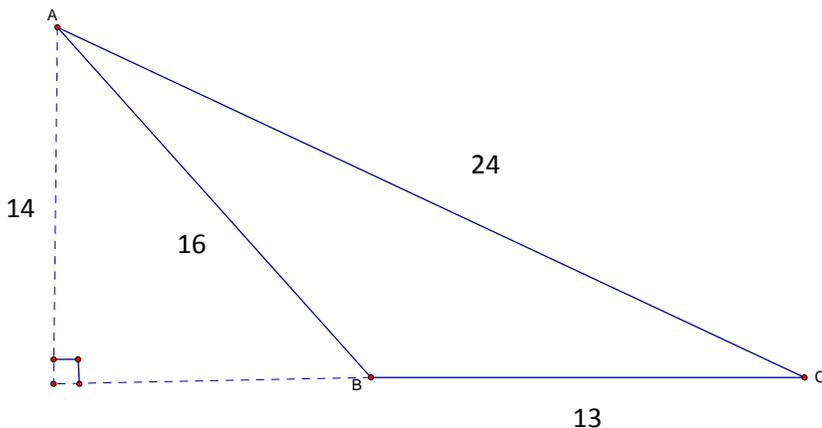
4

3

8

4

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.
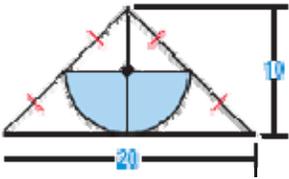
8100

1600

x

22. Find the area and the perimeter of the obtuse triangle. All measurements are given in feet.

A

24

14

16

B

13

C

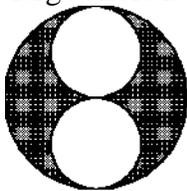Use the figure below for questions 23 – 26. All measurements are given in meters.

23. What is the area of the large triangle?

23. _____

24. What is the radius and area of the shaded region?
    (Leave answers in terms of π)

24. Radius of shaded region =

    _____

    Area of shaded region =

    _____

25. Find the probability that a randomly chosen point in
    the figure lies in the shaded region. (Round your
    answer to the nearest whole number percentage.)

25. _____

26. What is the probability that a randomly chosen point lies in the
    unshaded region? (Round your answer to the nearest whole
    number percentage.)

26. _____

27. Each circle is tangent to the other two. If the diameter of
    the large circle is 12 m, the area of the shaded region is _____.
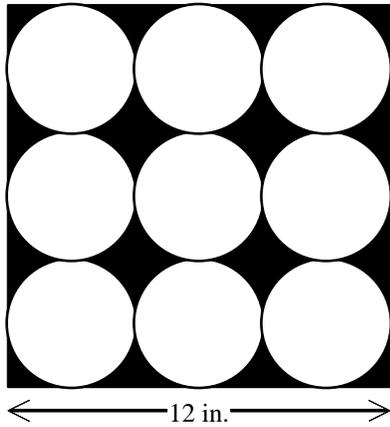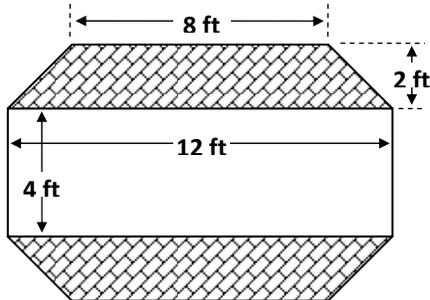

27. Area of the shaded region =

    _____

(SE/PE) 28. In this figure, each circle has a radius of 2 inches. What is the area of the shaded portion outside the circles but inside the square? Express your answer in terms of π.

←————12 in.————→

    A. $144 - 4\pi$

    B. $144 - 36\pi$

    C. $24 - 8\pi$

    D. $24 - 12\pi$

(SE) 29. A rectangular garden is to be edged with decorative brick as shown by the shaded region in the figure.
The flower garden is 4 feet by 12 feet. The trapezoids are 2 feet high.

What is the area of the decorative edge (the shaded region) in square feet?

    A. 20 ft^2

    B. 26 ft^2

    C. 40 ft^2

    D. 48 ft^2

(PE)30. A wooden fence is to be built around a 28 m-by-78 m lot. How many meters of fencing will be needed? If the wood for the fence costs $36.50 per meter, what will the wood for the fence cost?

    A. 212 m, $79,716.00   B. 2184 m, $7,738.00

    C. 212 m, $7,738.00   D. 2184 m, $79,716.00

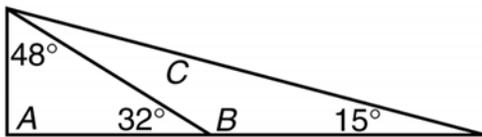(LTMR) 31. Two lines that are not coplanar and do not intersect are called _____.

    A. oblique   B. parallel

    C. perpendicular   D. skew lines

(LTMR) 32. Find the slope of the line.
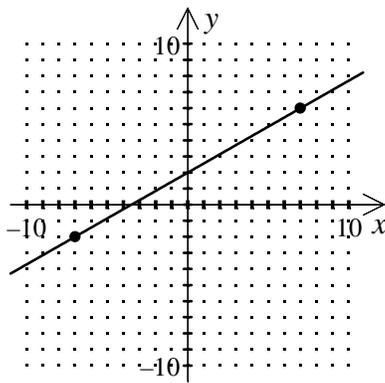
  A. $\dfrac{-7}{4}$ B. $\dfrac{7}{4}$ C. $\dfrac{-4}{7}$ D. $\dfrac{4}{7}$

(LTMR) 33. Refer to the figure below. $m\angle C =$ _____.

  A. 148°   B. 100°   C. 17°   D. 15°

30. _____

31. _____

32. _____

33. _____