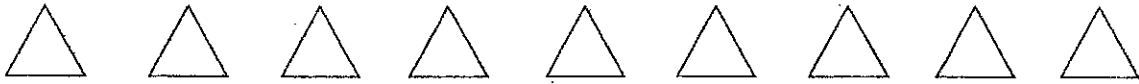


Perimeter

Name _____

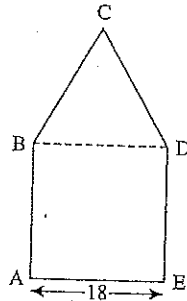
GEOMETRY

NO WORK = NO CREDIT



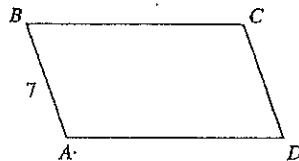
DO YOUR FIGURING HERE.

1. The figure below is composed of square $ABDE$ and equilateral triangle BCD . The length of line segment AE is 18 centimeters. What is the perimeter of $ABCDE$, in centimeters?



- A. 48
- B. 54
- C. 72
- D. 90
- E. 106

2. In parallelogram $ABCD$ shown below, AB is 7 inches long. If the parallelogram's perimeter is 46 inches, how many inches long is AD ?



- F. $6\frac{1}{2}$
- G. 16
- H. 28
- J. 39
- K. 49

3. The lengths of the sides of a triangle are 3 consecutive even integers. If the perimeter of the triangle is 48 inches, what is the length, in inches, of the longest side?

- A. 12
- B. 14
- C. 16

D. 18
E. 24

Name _____

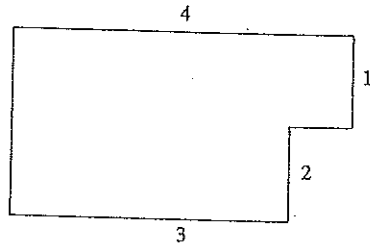
GEOMETRY

NO WORK = NO CREDIT



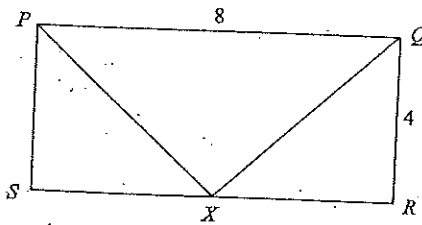
4. In the figure below, all line segments are either horizontal or vertical and the dimensions are given in feet. What is the perimeter in feet, of the figure?

DO YOUR FIGURING HERE.



- F. 16
- G. 14
- H. 13
- J. 12
- K. 10

5. In the figure below, $PQRS$ is a rectangle with sides of lengths shown. X is the midpoint of \overline{SR} . What is the perimeter of triangle PXQ ?



- A. 10
- B. $4\sqrt{2} + 12$
- C. $3\sqrt{2} + 12$
- D. $8\sqrt{2} + 8$
- E. $4\sqrt{2} + 4$

6. The length of a rectangle is 5 inches longer than its width. If the perimeter of the rectangle is 38 inches, what is the width, in inches?

- F. 5
- G. 7
- H. 12
- J. 17
- K. 28

Name _____

GEOMETRY

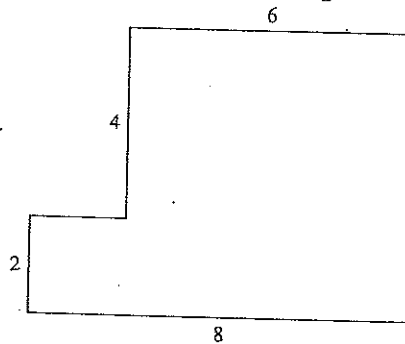
NO WORK = NO CREDIT



7. A certain rectangle is 5 times as long as it is wide. Suppose the length and width are both tripled. The perimeter of the second rectangle is how many times as large as the perimeter of the first rectangle?
- A. 3
 - B. 5
 - C. 6
 - D. 12
 - E. 15

DO YOUR FIGURING HERE.

8. In the figure below, all line segments are either horizontal or vertical, and the dimensions given are in feet. What is the perimeter, in feet, of the figure?



- F. 20
 - G. 24
 - H. 26
 - J. 28
 - K. 32
9. The diagonal of a rectangular garden is 15 feet, and one side is 9 feet. What is the perimeter of the garden?
- A. 135
 - B. 108
 - C. 68
 - D. 48
 - E. 42
10. The perimeter of a square is 36 units. How many units long is the diagonal of the square?
- F. 8
 - G. $9\sqrt{2}$
 - H. 16
 - J. 18
 - K. $18\sqrt{3}$

Name _____

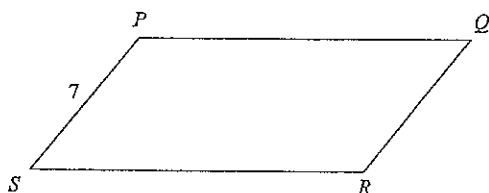
GEOMETRY

NO WORK = NO CREDIT



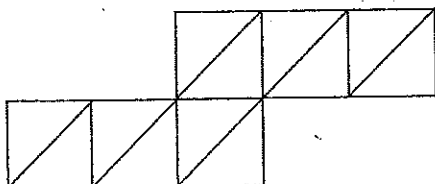
DO YOUR FIGURING HERE.

11. In the parallelogram $PQRS$ shown below, PS is 7 centimeters long. If the parallelogram's perimeter is 40 centimeters, how many centimeters long is PQ ?



- F. 49
- G. 21
- H. 13
- J. 10
- K. 5.7

12. The 8-sided figure below is divided into 12 congruent isosceles right triangles. The total area of the 12 triangles is 96 square centimeters. What is the perimeter, in centimeters, of the figure?



- F. 8
- G. $20 + 4\sqrt{2}$
- H. 48
- J. $40 + 8\sqrt{2}$
- K. 56

Surface Area

Name _____

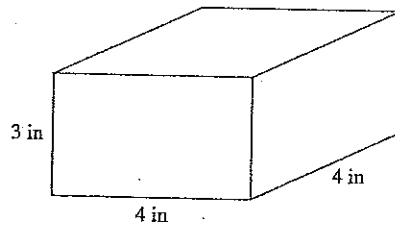
GEOMETRY

NO WORK = NO CREDIT



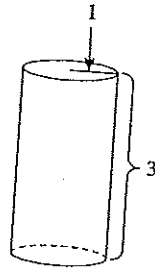
1. The total surface area of the rectangular solid shown below is the sum of the areas of the 6 sides. What is the solid's total surface area, in square inches?

DO YOUR FIGURING HERE.



- F. 18
- G. 36
- H. 48
- J. 80
- K. 96

2. A right circular cylinder is shown below, with dimensions given in inches. What is the total surface area of the cylinder, in square inches?
(Note: The total surface area of a cylinder is given by $2\pi r^2 + 2\pi rh$, where r is the radius and h is the height.)



- A. 3π
- B. 5π
- C. 6π
- D. 8π
- E. 11π

3. Amanda plans to paint the 4 walls of her bedroom with 1 coat of paint. The walls are rectangular, and each wall measures 12 feet by 14 feet. She will not paint either the 3-foot-by-4-foot rectangular window in her bedroom or the 3-foot-by-7-foot rectangular bedroom door. Amanda knows that each gallon of paint covers between 350 and 400 square feet. If only 1-gallon cans of paint are available, which of the following is the minimum number of cans of paint Amanda needs to buy to paint her bedroom walls?

- F. 1
- G. 2
- H. 3
- J. 4
- K. 5

Area

Name _____

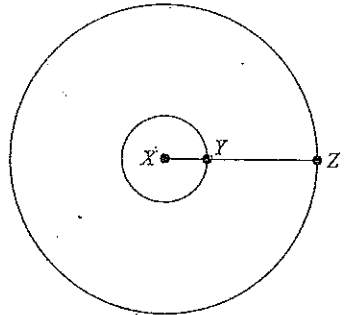
GEOMETRY

NO WORK = NO CREDIT



1. In the figure below, both circles are centered around X. The length of XY is 2 units and the length of XZ is 6 units. If the smaller circle is cut out of the larger circle, how much of the area, in square units, of the larger circle will remain?

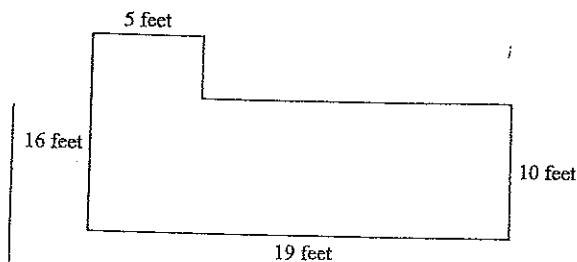
DO YOUR FIGURING HERE.



- F. 12π
- G. 16π
- H. 32π
- J. 36π
- K. 40π

2. A rectangular garden has a length of x and a width of y . The garden has its length reduced by 3 feet and its width extended by 2 feet. What is the area of the new garden?
- F. $x + y$
 - G. $(x - 3)(y - 2)$
 - H. $(x + 3)(y + 2)$
 - J. $(x - 3)(y + 2)$
 - K. $(x + 3)(y - 2)$

3. A floor has the dimensions shown below. How many square feet of tile are needed to cover the entire floor?



- F. 50
- G. 95
- H. 160
- J. 190
- K. 220

Name _____

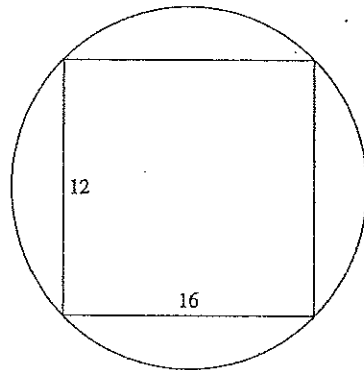
GEOMETRY

NO WORK = NO CREDIT



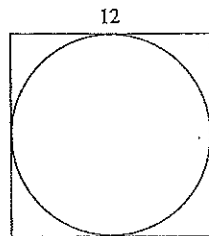
4. A 12-centimeter-by-16-centimeter rectangle is inscribed in a circle as shown below. What is the area of the circle, in square centimeters?

DO YOUR FIGURING HERE.



- F. 5π
- G. 14π
- H. 25π
- J. 100π
- K. 192π

5. A circle is circumscribed within a square with sides of 12 feet, as shown below. What is the area of the circle, to the nearest square foot?



- F. 144
- G. 113
- H. 72
- J. 12π
- K. 3π

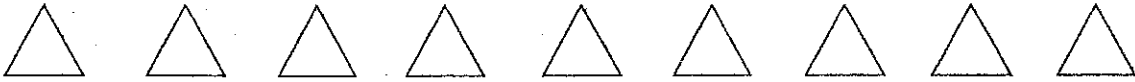
6. A square and a regular pentagon have equal perimeters. If the pentagon has sides of length 12, what is the area of the square?

- F. 30
- G. 48
- H. 60
- J. 225
- K. 244

Name _____

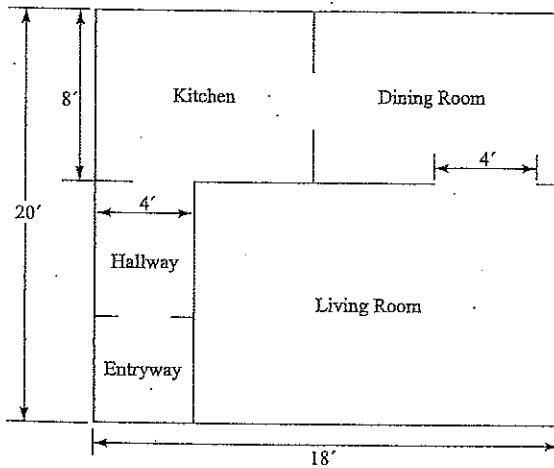
GEOMETRY

NO WORK = NO CREDIT



Use the following information to answer Questions 7 and 8.

DO YOUR FIGURING HERE.



The figure above shows the plan for the ground floor of a townhouse. The thickness of the walls should be ignored when answering the questions. The dimensions shown are in feet, and each region is rectangular.

7. What is the area, in square feet, of the living room?
 - A. 360
 - B. 280
 - C. 216
 - D. 168
 - E. 120

8. What is the perimeter, in feet, of the ground floor of the townhouse?
 - F. 76
 - G. 80
 - H. 92
 - J. 180
 - K. 360

9. Marcia's horse's rectangular corral is 50 feet wide by 125 feet long. Marcia wants to increase the area by 1,850 square feet by increasing the width and length by the same amount. What will be the new dimensions (width by length), in feet?
 - F. 55 by 130
 - G. 60 by 135
 - H. 65 by 135
 - J. 65 by 140
 - K. 70 by 145

Name _____

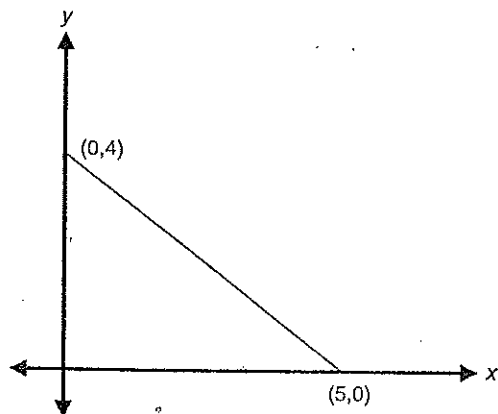
GEOMETRY

NO WORK = NO CREDIT



10. What is the area, in coordinate units, of the triangle in the figure below?

DO YOUR FIGURING HERE.



- A. 4.5
B. 9.0
C. 10.0
D. 12.5
E. 20.0
11. A rectangular parking lot has an area 315 square yards. Its length (l) is 3 times its width (w). Which of the following equations could you use to determine the width of the parking lot?
- F. $3w \times w = 315$
G. $3l \times l = 315$
H. $w \times 3 = 315$
J. $w = \frac{315}{3}$
K. $w - 3 = 315$
12. What is the area of a circle that has a circumference of $.5\pi$?
- F. 0.0625π
G. 0.10π
H. 0.25π
J. 25π
K. 625π
13. A circular lamp base has a radius of 2.5 inches. When placed on a flat table, approximately how much area does the lamp base cover, in square inches?
- F. 5.00
G. 6.25
H. 15.70
J. 19.63
K. 25.00

Name _____

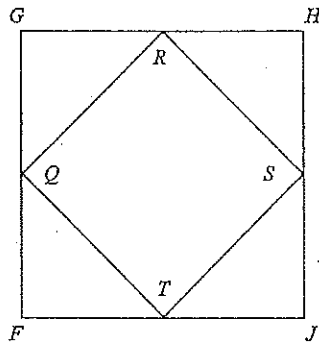
GEOMETRY

NO WORK = NO CREDIT

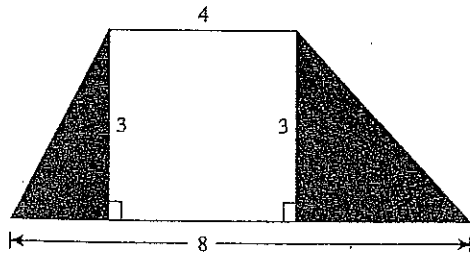


14. In the figure below, $FGHJ$ is a square and Q , R , S , and T are the midpoints of its sides. If $\overline{GH} = 10$ inches, what is the area of $QRST$, in inches?

DO YOUR FIGURING HERE.



- A. 100
B. 50
C. 25
D. 20
E. $5\sqrt{2}$
15. The trapezoid below is divided into 2 triangles and 1 rectangle. Lengths are given in centimeters. What is the combined area, in square centimeters, of the 2 shaded triangles?



- A. 18
B. 12
C. 9
D. 6
E. 4
16. The area of a rectangular kitchen is 80 square feet. If the length of the floor is 4 feet less than four times the width, what is the width of the floor in feet?
- A. 4
B. 5
C. 8
D. 16
E. 17

Name _____

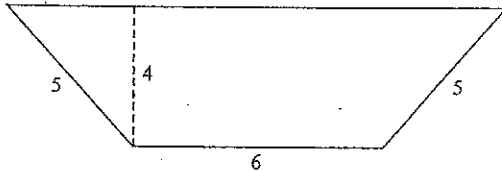
GEOMETRY

NO WORK = NO CREDIT

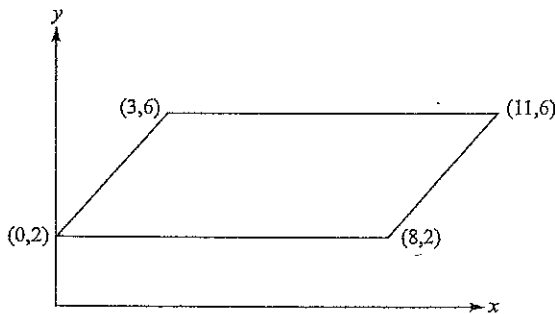


17. The area of a trapezoid is found by using the equation $\frac{1}{2}h(b_1 + b_2)$, where h is the height and b_1 and b_2 are the lengths of the bases. What is the area of the trapezoid shown below?

DO YOUR FIGURING HERE.



- F. 18
 - G. 20
 - H. 24
 - J. 30
 - K. 36
18. In the standard (x, y) coordinate plane below, the points $(0, 2)$, $(8, 2)$, $(3, 6)$, and $(11, 6)$ are the vertices of a parallelogram. What is the area, in square units, of the parallelogram?



- F. $6\sqrt{2}$
 - G. 16
 - H. 32
 - J. 56
 - K. 88
19. What is the area, in square inches, of a circle with a diameter equal to 12 inches?
- F. 144
 - G. 36
 - H. 12π
 - J. 36π
 - K. 144π

Name _____

GEOMETRY

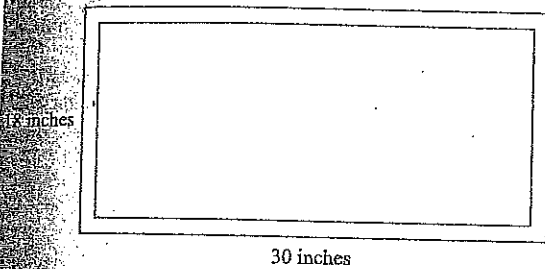
NO WORK = NO CREDIT



20.

The picture shown below has a uniform frame-width of $\frac{5}{8}$ inches. What is the approximate area, in square inches, of the viewable portion of the picture?

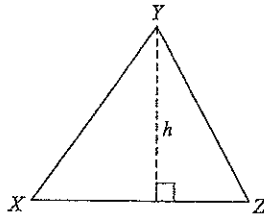
DO YOUR FIGURING HERE.



- A. 426.25
- B. 481.56
- C. 510.40
- D. 510.75
- E. 540.00

21.

In $\triangle XYZ$ below, \overline{XZ} is $\frac{7}{8}$ of h , the length of the altitude. What is the area of $\triangle XYZ$ in terms of h ?



- F. $\frac{7h}{8}$
- G. $\frac{7h^2}{8}$
- H. $\frac{7h}{16}$
- J. $\frac{7h^2}{16}$
- K. $\frac{7h^2}{12}$

22.

The length of a side of a square is represented as $(3x - 2)$ inches. Which of the following general expressions represents the area of the square, in square inches?

- F. $12x - 8$
- G. $9x^2 - 4$
- H. $9x^2 - 6x + 4$
- J. $9x^2 - 12x - 4$
- K. $9x^2 - 12x + 4$

Name _____

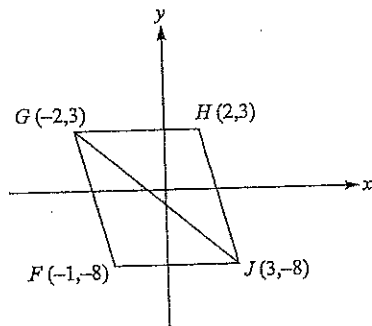
GEOMETRY

NO WORK = NO CREDIT



23. Given the vertices of parallelogram $FGHJ$ in the standard (x,y) coordinate plane below, what is the area of triangle GHH , in square units?

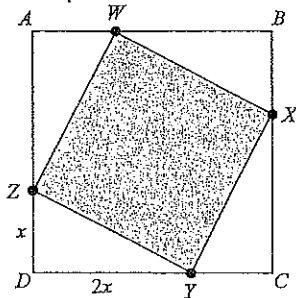
DO YOUR FIGURING HERE.



- A. 11
- B. 15
- C. 22
- D. 44
- E. 88

24. A rectangular kitchen is 8 feet longer than it is wide. Its area is 240 square feet. How long, in feet, is it?
- F. 12
 - G. 16
 - H. 20
 - J. 24
 - K. 30

25. Sides \overline{AB} , \overline{BC} , \overline{CD} , and \overline{DA} of square $ABCD$ are broken up by points W , X , Y , and Z as shown below. If \overline{AB} is 6 inches long, what is the area, in square inches, of the shaded region?



- F. 36
- G. 32
- H. 20
- J. 16
- K. 12