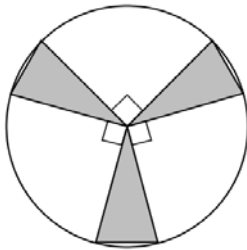
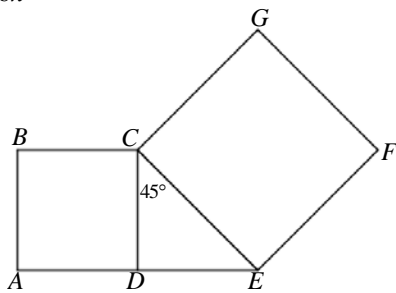


UB SAT 2009
Worksheet #23b
Mixed Geometry

1. A triangle of height 5 and base 4 has an area exactly $\frac{1}{3}$ that of a rectangle with height 5. What is the width of the rectangle?
- (A) 4
(B) 5
(C) 6
(D) 8
(E) 10

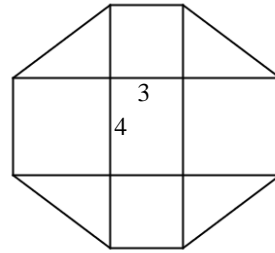


2. In the circle above, 3 right angles have vertices at the center of the circle. If the radius of the circle is 8, what is the combined area of the shaded regions?
- (A) 8π
(B) 9π
(C) 12π
(D) 13π
(E) 16π

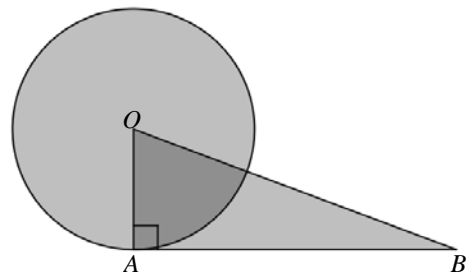
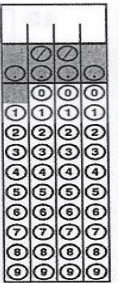


3. In the figure above, $ABCD$ and $CEFG$ are squares. If the area of $CEFG$ is 36, what is the area of $ABCD$?
- (A) 6
(B) $6\sqrt{2}$
(C) 9
(D) 18
(E) 24

4. A triangle and a circle have equal areas. If the base of the triangle and the diameter of the circle each have length 5, what is the height of the triangle?
- (A) $\frac{5}{2}$
(B) $\frac{5}{2}\pi$
(C) 5π
(D) 10π
(E) It cannot be determined from the information given.



5. The figure above is composed of 9 regions: 4 squares, 4 triangles, and 1 rectangle. If the rectangle has length 4 and width 3, what is the perimeter of the entire figure?



6. In the figure above, if radius OA is 8 and the area of right triangle OAB is 32, what is the area of the shaded region?
- (A) $64\pi + 32$
(B) $60\pi + 32$
(C) $56\pi + 32$
(D) $32\pi + 32$
(E) $16\pi + 32$

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Answers

1. C

2. E

3. D

4. B

5. 34

6. C