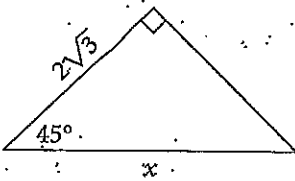


1. What is the area of an isosceles right triangle with a hypotenuse of 2?

- (A) 4
- (B) $4\sqrt{2}$
- (C) 8
- (D) $8\sqrt{2}$
- (E) $\sqrt{3}$

2. What is the length of the hypotenuse of an isosceles right triangle with an area of 32?

- (A) 4
- (B) $4\sqrt{2}$
- (C) 8
- (D) $8\sqrt{2}$
- (E) $\sqrt{3}$



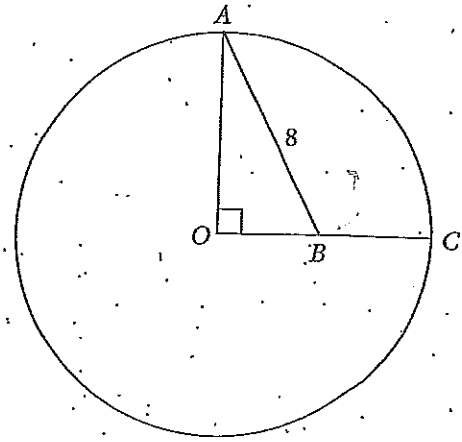
3. In the figure above, what is the measure of x ?

- (A) $2\sqrt{3}$
- (B) $2\sqrt{6}$
- (C) 6
- (D) $6\sqrt{2}$
- (E) 8

4. What is the volume of a cube with a surface area of 96?

- (A) 8
- (B) 16
- (C) 27
- (D) 48
- (E) 64

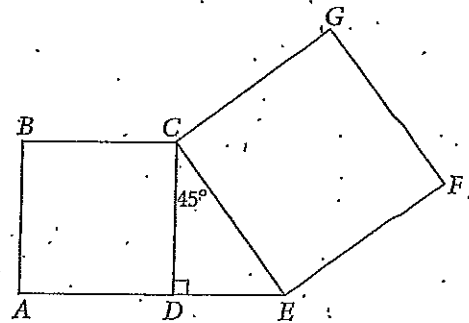
5.



In the figure above, circle O has a circumference of 12π . If $AB = 8$, what is the length of BC ?

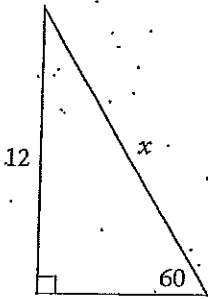
- (A) $2\sqrt{7}$
- (B) $2(3 - \sqrt{7})$
- (C) $2(6 - \sqrt{7})$
- (D) $4\sqrt{5}$
- (E) $2(3 - 2\sqrt{5})$

6



In the figure above, $ABCD$ and $CEFG$ are squares. If the area of $CEFG$ is 36, what is the area of $ABCD$?

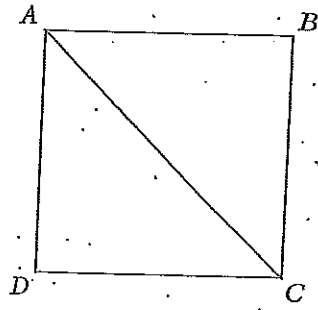
- (A) 6
- (B) $6\sqrt{2}$
- (C) 9
- (D) 18
- (E) 24



In the figure above, what is the measure of x ?

- (A) $6\sqrt{2}$
- (B) 12
- (C) $8\sqrt{2}$
- (D) $8\sqrt{3}$
- (E) 14

10



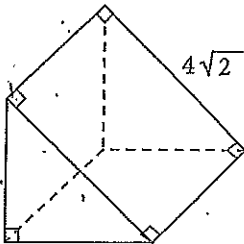
In square $ABCD$ shown above, if $AC = 5$, what is the area of the shaded region?

11.

A rectangular block with a volume of 250 cubic inches was sliced into 2 cubes of equal volume. How much greater, in square inches, is the combined surface area of the 2 cubes than the original surface area of the rectangular block?

A cylinder has a volume of 72π cubic inches and a height of 8 inches. If the height is increased by 4 inches, what will be the new volume of the cylinder, in cubic inches?

- (A) 576π
- (B) 9π
- (C) 108π
- (D) 328π
- (E) 76π



If the solid above is half of a cube, then the volume of the solid is

- (A) 16
- (B) 32
- (C) 42
- (D) 64
- (E) $64\sqrt{2}$

12.

If a right cylinder with a radius of 2 has a volume of 100π , what is the height of the cylinder?