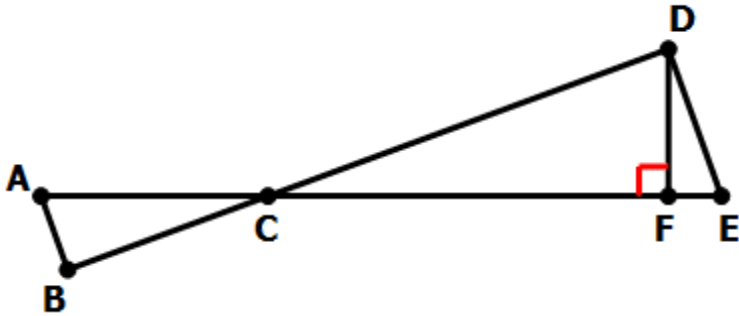


GRE Geometry Practice Test 1

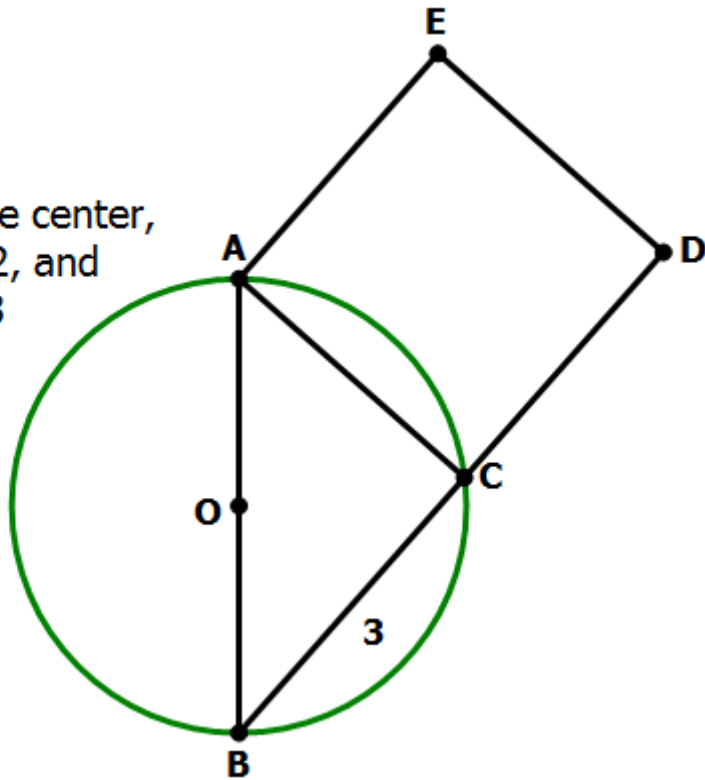


1) In the diagram, $AC = 6$, $CE = 12$, $DF = 4$, and AB is parallel to DE .

Quantity A
the area
of triangle ABC

Quantity B
12

O is the center,
 $OA = 2$, and
 $BC = 3$



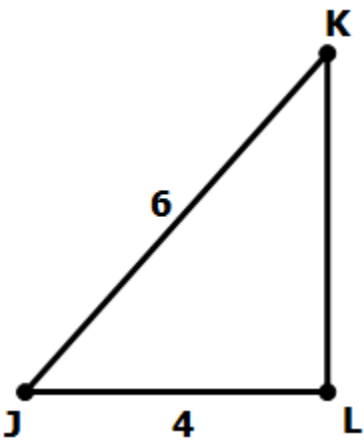
2)

Quantity A

the area
of square
ACDE

Quantity B

7



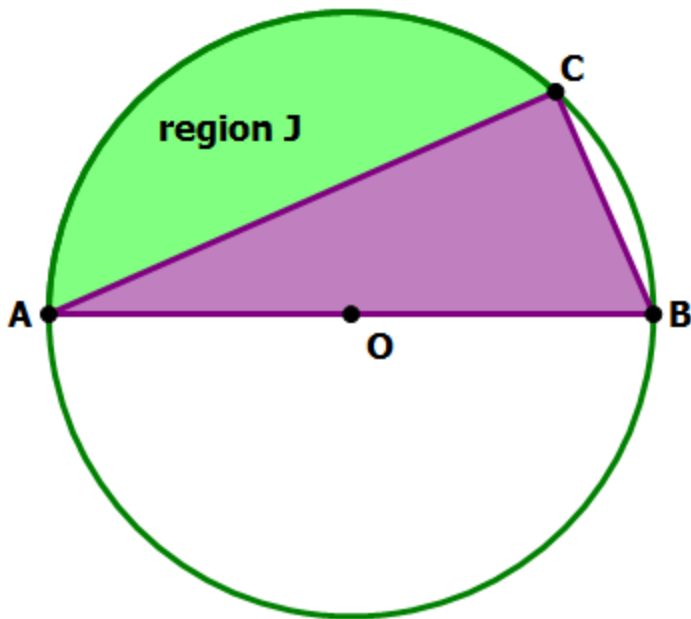
3) In the diagram, $JL = 4$ and $JK = 6$.

Quantity A

the area
of triangle JKL

Quantity B

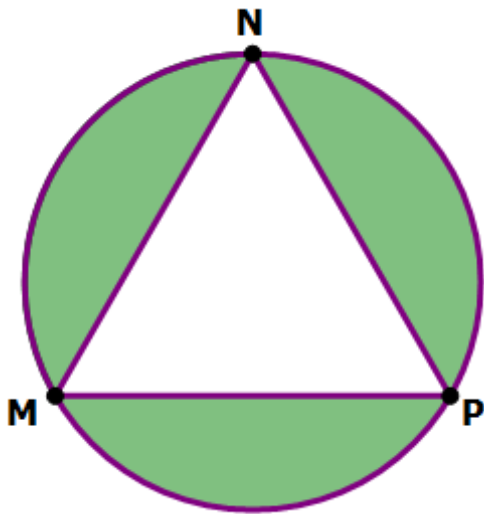
11



4) In the diagram, O is the center of the circle, and AB is a diameter. Region J is the area between chord AC and the arc of the circle.

Quantity A
area of triangle ABC

Quantity B
area of region J



5) In the diagram, triangle MNP is equilateral.

Quantity A

area of
triangle MNP

Quantity B

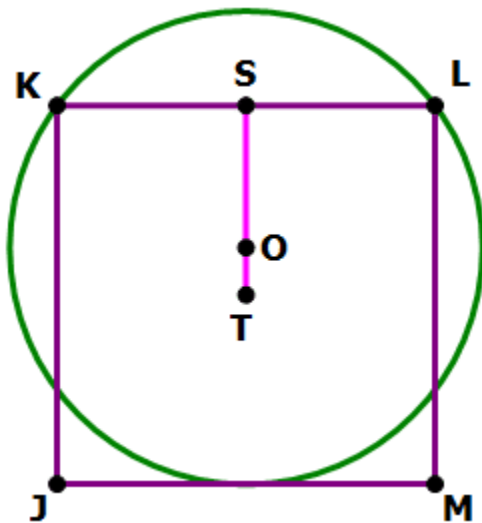
area of
shaded
region

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6) In the diagram, JKLM is a square. Point S is the midpoint of KL, and point T is the center of the square. Point O is on segment ST, and is the center of the circle, which passes through both K and L.

Quantity A

area of the circle

Quantity B

area of square JKLM



7)

In the diagram, $\frac{AB}{AC} = \frac{AC}{BC}$.

Quantity A

$$\frac{AC}{BC}$$

Quantity B

3

8) A sector of a circle of radius 5 cm is recast into a right circular cone of height 4 cm. What is the volume of the resulting cone?

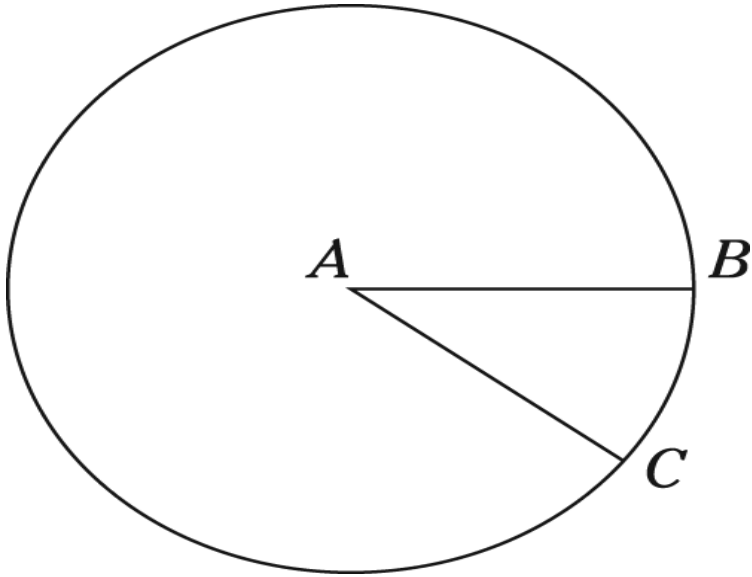
- A. $12 \pi \text{ cm}^3$
- B. $100 \pi \text{ cm}^3$
- C. $33 \pi \text{ cm}^3$
- D. $32 \pi \text{ cm}^3$
- E. $4 \pi \text{ cm}^3$

9) The area for which of the following will necessarily be more than 50 square units.

Indicate all such expressions

- A. Circle whose circumference is 22 units
- B. Parallelogram whose adjacent sides measure 20 units and 10 units.
- C. Rhombus whose perimeter is 52 units.
- D. Rectangle whose perimeter is 50 units.
- E. Square whose perimeter is 32 units.
- F. Right triangle whose hypotenuse measures 17 units.

10) The following circle has a radius of 5.



Angle CAB originates at the center of the circle and measures 36 degrees.

Quantity A

Quantity B

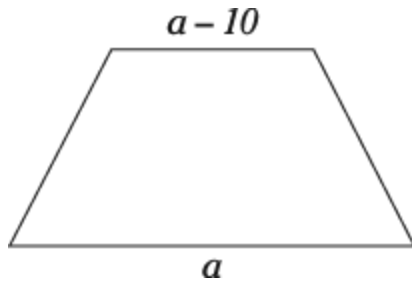
The length of
minor arc BC .

π

Which of the following statements is true about the two quantities?

- (A) Quantity A is greater.
- (B) Quantity B is greater.
- (C) The two quantities are equal.
- (D) The relationship cannot be determined from the information given.

11) The trapezoid shown here, has an area of



$$(a - 5)^2$$

The following table contains two quantities relating to the trapezoid.

Quantity A

Quantity B

The height of
the trapezoid

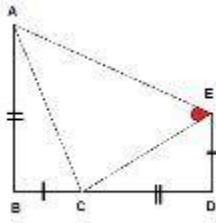
$$a - 5$$

Which statement is true about the two quantities?

- (A) Quantity A is greater.
- (B) Quantity B is greater.
- (C) The two quantities are equal.
- (D) The relationship cannot be determined from the information given.

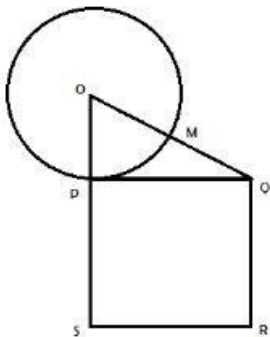
13) In the figure shown below, line AB is parallel to line DE, $AB=CD$, $BC=DE$ and $\angle B = \angle D = 90$ degree

Find the degree measure of $\angle AEC$



- A. 90 degree
- B. 60 degree
- C. 45 degree
- D. 30 degree
- E. cannot be determined

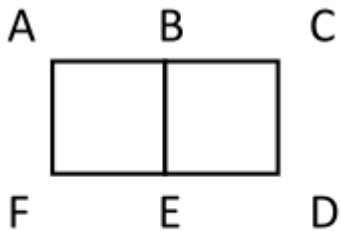
14) PQRS is a square. PQ is tangent to circle with radius r and $OM = MQ$. Then what is the ratio of the area of the circle to the area of the square?



- A) $\frac{\pi r^2}{4}$
- B) $\frac{\pi}{3}$
- C) $\frac{2\pi}{3r^2}$
- D) $\frac{2r^2}{\pi}$
- E) $\frac{7}{11}$

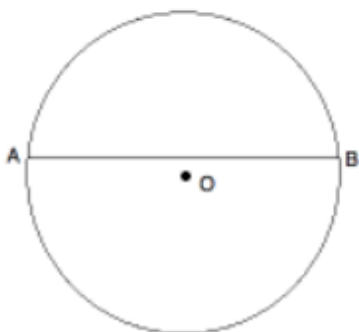
15) In the figure shown above, line segment BC has length 16 cm, rectangle FABE is a square, and the area of rectangular region FACD is 612 cm².

- Quantity A- Area of FABE
 - Quantity B- Area of EBCD
- A. Quantity A is greater.
 B. Quantity B is greater.
 C. The two quantities are equal.
 D. The relationship cannot be determined from the information given.



Note: Not drawn to scale

16)



O is the center of the circle above.

The length of AB is 14.

Quantity A: The area of the circle.

Quantity B: 49π

Which of the following is true?

Possible Answers:

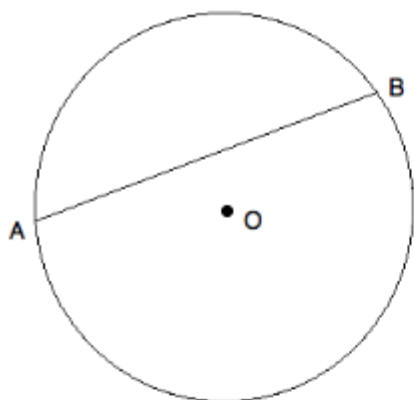
Quantity A is greater.

The two quantities are equal.

Quantity B is greater.

The relationship cannot be determined.

17)



O is the center of the circle above.

The circumference of the circle above is 30π .

Quantity A: The length of AB .

Quantity B: 30

Which of the following is true?

Possible Answers:

Quantity A is larger.

Quantity B is larger.

The two quantities are equal.

The relationship cannot be determined.

18)

What is the circumference of a circle with an area of 36π ?

Possible Answers:

15π

None of the other answers

12π

32

6π

19)

Which is greater: the circumference of a circle with an area of $25\pi \text{ in}^2$, or the perimeter of a square with side length 7 inches?

Possible Answers:

The perimeter of the square is greater.

The two quantities are equal.

The circumference of the circle is greater.

The relationship cannot be determined from the information given.

20)

Circle A has an area of 121π . What is the perimeter of an enclosed semi-circle with half the radius of circle A?

Possible Answers:

11π

$5.5\pi + 5.5$

$5.5\pi + 11$

22π

$11\pi + 5.5$