

GRE Geometry Practice Test 10

Question 1

What is the area of a sector of a circle of radius 4 that spans an arc of 86 degrees?

Possible Answers:

$$\frac{1}{4} * \pi$$

$$\frac{172}{45} * \pi$$

$$\frac{1}{5} * \pi$$

$$\frac{17}{42} * \pi$$

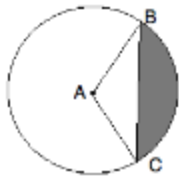
$$\frac{12}{53} * \pi$$



Correct answer:

$$\frac{172}{45} * \pi$$

Question 2



The circle above has a center of A, and points B and C lie on the circumference.

$$\angle BAC = 120^\circ$$

$$\overline{AC} = 12$$

What is the area of the shaded region?

Possible Answers:

72

$12\sqrt{3}$

None of the other answers

144π

$48\pi - 36\sqrt{3}$



Correct answer:

$$48\pi - 36\sqrt{3}$$

Question 3

What is the angle between the hour and minute hand of a clock at 4:15?

Possible Answers:

30°

37.5°

15°

23.5°

10°



Correct answer:

37.5°

Question 4

What is the angle, in degrees, between the minute and hour hands of the clock at 5 : 40 pm?

Possible Answers:

30°

70°

45°

90°



Correct answer:

70°

Question 5

A clock has two equally long hands on it, each measuring 5 inches. If the minute hand is directly on 12 and the hour hand is directly on 4, what is the distance between the two hands?

Possible Answers:

$$\frac{10\pi}{3} \text{ in}$$

$$6\pi \text{ in}$$

$$7\pi \text{ in}$$

$$\frac{3\pi}{7} \text{ in}$$

$$4.5\pi \text{ in}$$



Correct answer:

$$\frac{10\pi}{3} \text{ in}$$

Question 6

A clock has two equally long hands on it, each measuring 6 inches. If the minute hand is directly on 6 and the hour hand is directly in the middle of 10 and 11, what is the distance between the two hands?

Possible Answers:

$$12\pi$$

$$2\pi$$

$$\frac{3\pi}{2}$$

$$\frac{9\pi}{2}$$

$$\frac{7\pi}{3}$$



Correct answer:

$$\frac{9\pi}{2}$$

Question 7

A clock has two equally long hands on it, each measuring 3 inches and extending to the edge of the clock. If the minute hand is directly on 12 and the hour hand is directly on 10, what is the length of the minor arc connecting the two hands?

Possible Answers:

$$\frac{2\pi}{5}$$

$$\frac{\pi}{6}$$

$$1.25\pi$$

$$2\pi$$

$$\pi$$



Correct answer:

$$\pi$$

Question 8

Quantitative Comparison

Quantity A: The degree measure of any angle in an equilateral triangle

Quantity B: The degree measure of any angle in a regular hexagon

Possible Answers:

The relationship cannot be determined from the information given.

Quantity A is greater.

Quantity B is greater.

The two quantities are equal.



Correct answer:

Quantity B is greater.

Question 9

Quantity A: Double the measure of a single interior angle of an equilateral triangle.

Quantity B: The measure of a single interior angle of a hexagon.

Possible Answers:

Quantity A is bigger.

The quantities are equal.

The relationship cannot be determined with the information given.

Quantity B is bigger.



Correct answer:

The quantities are equal.

Question 10

The perimeter of a regular pentagon is 40 units. What is the area of the pentagon?

Possible Answers:

$$A = 16\sqrt{5(5 + 2\sqrt{5})}$$

$$A = 2\sqrt{5(5 + 2\sqrt{5})}$$

$$A = \frac{25}{4}\sqrt{5(5 + 2\sqrt{5})}$$

$$A = 8\sqrt{5(5 + 2\sqrt{5})}$$



Correct answer:

$$A = 16\sqrt{5(5 + 2\sqrt{5})}$$