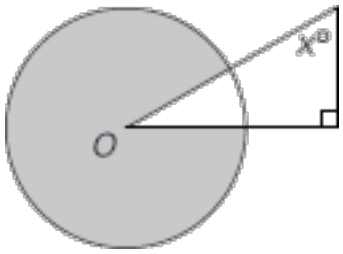
GMAT Practice Worksheet: CIRCLES (Geometry)

Objective: The purpose of this worksheet is to give you practice solving GMAT problems involving circles, using the skills and techniques learned in *Game Plan for the GMAT* and taught in the video lesson "Geometry - Circles," including:

1. **Always Draw a Figure (to scale) if none is given;**
2. **Re-Draw a Figure to scale, if necessary;**
3. **Apply the Relevant Geometry;**
4. **Eyeball, Approximate, and Use Logic (if you can't remember the geometry).**

Directions: Take as much time as you need to apply the technique(s) and solve the problem. Use the book and videos if necessary. Do not be concerned with time; learning the techniques and relevant geometry is what is important.

1.

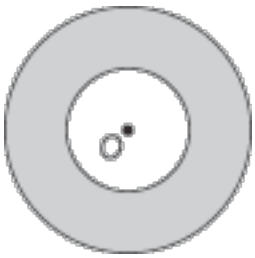


Note: Figure not drawn to scale.

The circle shown above has center *O* and a radius of length 5. If the area of the shaded region is 20π, what is the value of *x*?

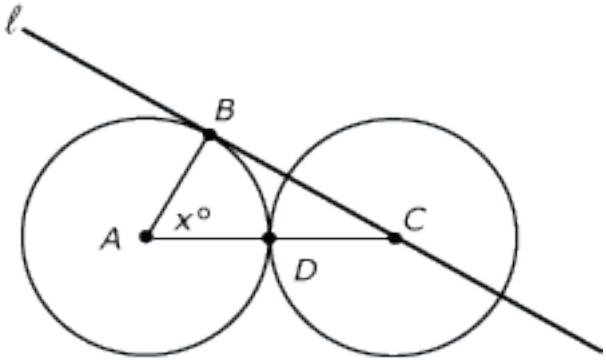
(a) 18
(b) 36
(c) 45
(d) 54
(e) 72

2.



The two circles above each have center *O*. The radius of the smaller circle is 1, and the radius of the larger circle is 2. If two points are selected at random from the interior of the larger circle, what is the probability that both points will be from the shaded region?

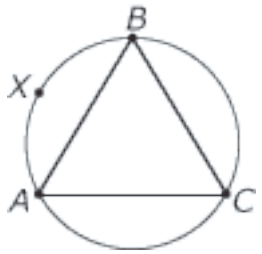
(a) $\frac{1}{16}$
(b) $\frac{1}{4}$
(c) $\frac{1}{2}$
(d) $\frac{9}{16}$
(e) $\frac{3}{4}$



3.

In the figure above, the circle with center *A* and the circle with center *C* are tangent at point *D*. If the circles each have radius 10, and if line ℓ is tangent to the circle with center *A* at point *B*, what is the value of *x*?

(a) 55
(b) 60
(c) 63
(d) 65
(e) It cannot be determined from the information given.



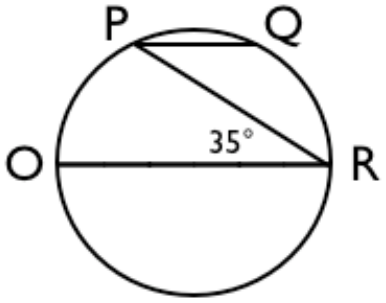
4.
In the figure above, inscribed triangle *ABC* is equilateral. If the radius of the circle is *r*, then the length of arc *AXB* is

(a) $\frac{2\pi r}{3}$
(b) $\frac{4\pi r}{3}$
(c) $\frac{3\pi r}{2}$
(d) $\frac{\pi r^2}{3}$
(e) $\frac{2\pi r^2}{3}$

5. If the diameter of a bicycle wheel is 0.5 meter, how many meters has the center of the wheel traveled when the wheel has made 3 complete revolutions along a straight road?

(a) $\frac{3\pi}{2}$
(b) 3π
(c) 12π
(d) $\frac{25\pi}{2}$
(e) 25π

6.



In the circle above, PQ is parallel to diameter OR, and OR has length 18. What is the length of minor arc PQ?

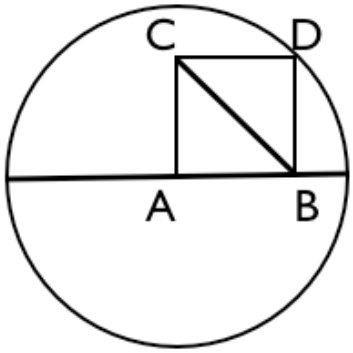
a. 2π

b. $\frac{9\pi}{4}$

c. $\frac{7\pi}{2}$

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

e. 3π



7.

In the figure shown above, A is both the center of the circle with circumference 8π and a vertex of the square ABCD. What is the length of diagonal BC?

(a) 1/2

(b) 1

(c) 2

(d) 4

(e) 8

GMAT Circles Worksheet:
ANSWER KEY

Note: Video answer explanations for each question on this worksheet can be found under the "Worksheets" heading on your back-end member page. If you still have questions about certain problems after watching the solution videos, contact your instructor or send an e-mail to info@dominatethegmat.com.

1. A
2. D
3. B
4. A
5. A
6. A
7. D