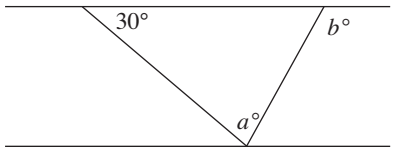
Drill 4

Try to use Plugging In on the following questions. Answers can be found in Part IV.

3



In the figure above, what is the value of *b*, in terms of *a* ?

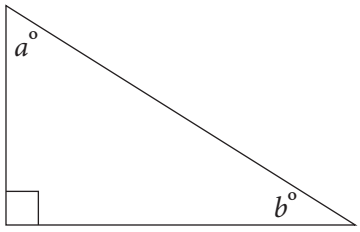
A) $30 - a$

B) $30 + a$

C) $60 + a$

D) $80 - a$

5



If $\sin a° = x$, then $\cos b° =$

A) x

B) $1 - x$

C) $\frac{1}{x}$

D) $x - 1$

7

Cone *A* and Cone *B* are both right circular cones with the same height. If the radius of Cone *A* is $\frac{3}{4}$ of the radius of Cone *B*, which of the following is the ratio of the volume of Cone *A* to the volume of Cone *B* ?

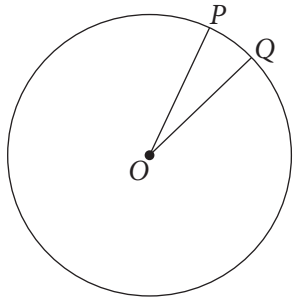
A) 27:64

B) 9:16

C) 3:4

D) 4:3

22



In the figure above, *O* is the center of the circle, the radius of the circle is *x,* and the length of minor arc *PQ* is $\frac{\pi x}{18}$. What is the area of sector *POQ* ?

A) $\frac{\pi x^2}{36}$

B) $\frac{\pi x^2}{18}$

C) $\frac{\pi x^2}{9}$

D) $\frac{\pi x^2}{3}$

26

Three spherical balls with radius r are contained in a rectangular box. Two of the balls are each touching 5 sides of the rectangular box and the middle ball. The middle ball also touches four sides of the rectangular box. What is the volume of the space between the balls and the rectangular box?

(Note: The volume of a rectangular solid is given by the equation $V = lwh$. The volume of a sphere is given by the equation $V = \frac{4}{3}\pi r^3$.)

A) $r^3(3 - 4\pi)$

B) $4r^2(14 - \pi)$

C) $4r^3(6 - \pi)$

D) $12r^2(r - \pi)$

29

A rectangular box is half as long as it is wide and one-third as wide as it is tall. If the volume of the box is 96, then what is its surface area? (Note: The formula for the volume of a rectangular solid is $V = lwh$.)