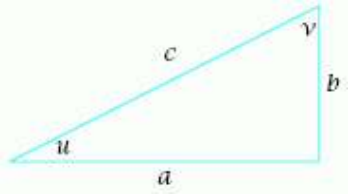
1. *Chapter 5, Section 5.1, Question 018

Use the right triangle below. This triangle is not drawn to scale corresponding to the given data.



Suppose $a = 9$ and $c = 10$. Evaluate u in radians.

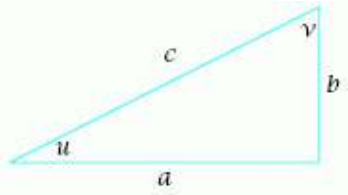
Round your answer to three decimal places.

$u =$ **0.451** *1 radians

Significant digits not applicable; the absolute tolerance is +/-0.002

2. *Chapter 5, Section 5.1, Question 024

Use the right triangle below. This triangle is not drawn to scale corresponding to the given data.



Suppose $a = 11$ and $b = 10$. Evaluate v in degrees.

Round your answer to one decimal place.

$v =$ **47.7** *1 degrees

Significant digits not applicable; the absolute tolerance is +/-0.2

3. *Chapter 5, Section 5.1, Question 026

Find the angle between the two sides of length 4 in an isosceles triangle that has one side of length 3 and two sides of length 4.

Round your answer to one decimal place.

44.0 *1 degrees

Significant digits not applicable; the absolute tolerance is +/-0.1

4. *Chapter 5, Section 5.1, Question 029

Find the smallest positive number t such that

$$10^{\cos t} = 5 .$$

Round your answer to three decimal places.

$t =$ **0.797** *1 radians

Significant digits not applicable; the absolute tolerance is +/-0.002

5. *Chapter 5, Section 5.1, Question 030

Find the smallest positive number t such that

$$10^{\sin t} = 3 .$$

Round your answer to three decimal places.

$t =$ **0.497** *1 radians

Significant digits not applicable; the absolute tolerance is +/-0.002

6. *Chapter 5, Section 5.1, Question 032

Find the smallest positive number t such that

$$e^{\tan t} = 400 .$$

Round your answer to three decimal places.

$t =$ **1.405** *1 radians

Significant digits not applicable; the absolute tolerance is +/-0.002

7. *Chapter 5, Section 5.1, Question 033

Find the smallest positive number y such that

$$\cos(\tan y) = 0.7 .$$

Round your answer to three decimal places.

$y =$ **0.672** *1 radians

Significant digits not applicable; the absolute tolerance is +/-0.002

8. *Chapter 5, Section 5.1, Question 036

Find the smallest positive number x such that

$$\sin^2 x - 20\sin x + 18 = 0 .$$

Round your answer to three decimal places.

$x =$ **1.236** *1 radians

Significant digits not applicable; the absolute tolerance is +/-0.002

9. *Chapter 5, Section 5.1, Question 044

What is the angle between the positive horizontal axis and the line containing the points $(4, 7)$ and $(8, 4)$?

Enter a positive angle.

Round your answer to one decimal place.

$\theta =$ **143.1** *1 degrees

Significant digits not applicable; the absolute tolerance is +/-0.5

10. *Chapter 5, Section 5.1, Question 042

What angle does the line $y = 6x$ in the xy -plane make with the positive x -axis?

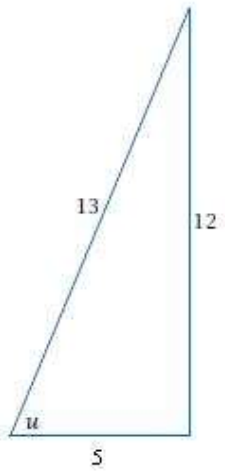
Round your answer to one decimal place.

$\theta =$ **80.5** *1 degrees

Significant digits not applicable; the absolute tolerance is +/-0.1

11. Chapter 5, Section 5.1, Question 050

Use the right triangle below to find three expressions of the angle, u in terms of the inverse trigonometric functions.



$u = \cos^{-1}$

$u = \sin^{-1}$

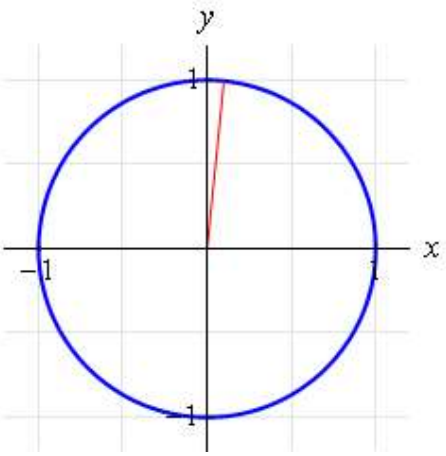
$u = \tan^{-1}$

12. *Chapter 5, Section 5.1, Question 052

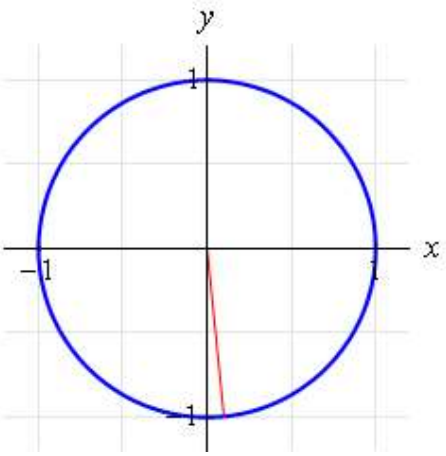
Without using a calculator, sketch the unit circle and the radius corresponding to $\cos^{-1} 0.1$.

Choose the correct answer.

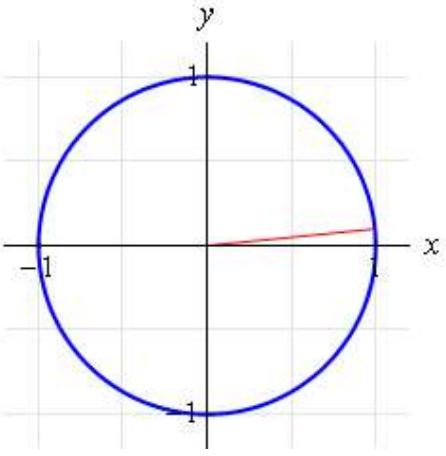
a.



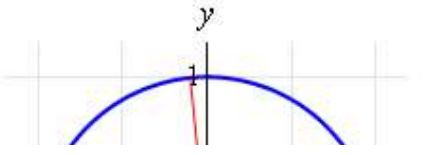
b.

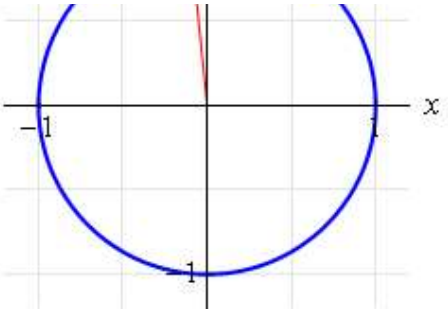


c.

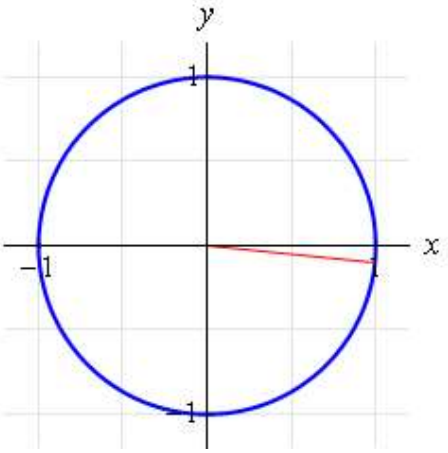


d.



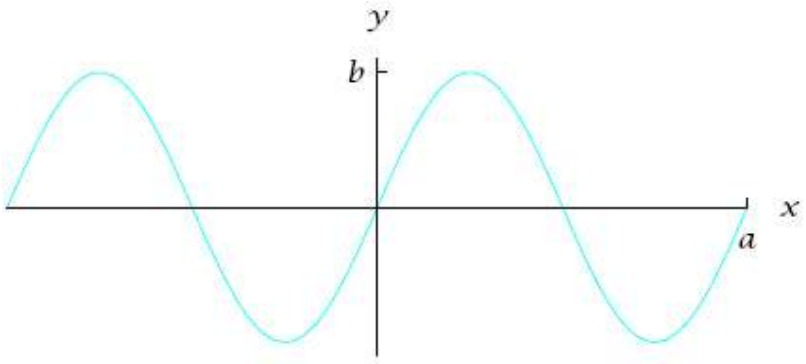


e.



Answer: a

13. *Chapter 6, Section 6.1, Question 005

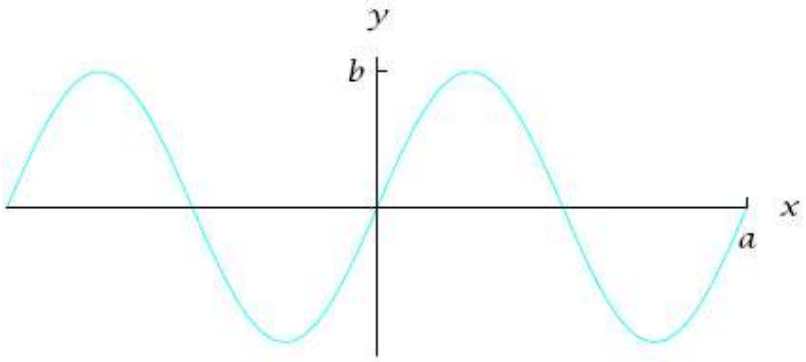


Suppose the figure above is part of the graph of the function $5 \sin x$. What is the value of b?

$b =$ **5** *1

Significant digits not applicable; exact number, no tolerance

14. *Chapter 6, Section 6.1, Question 006

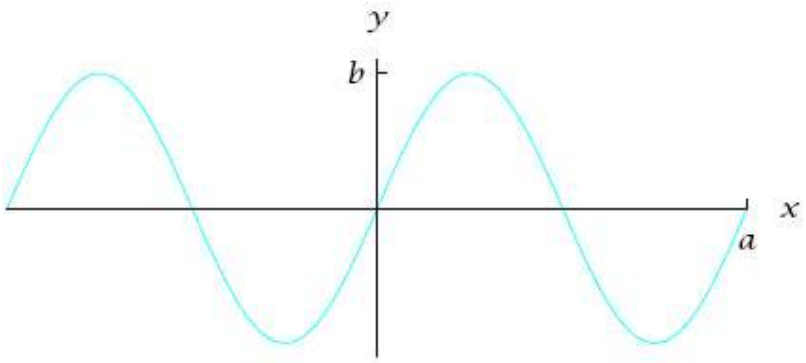


Suppose the figure above is part of the graph of the function $8\sin(3x)$. What is the value of b?

$b =$ **8** *1

Significant digits not applicable; exact number, no tolerance

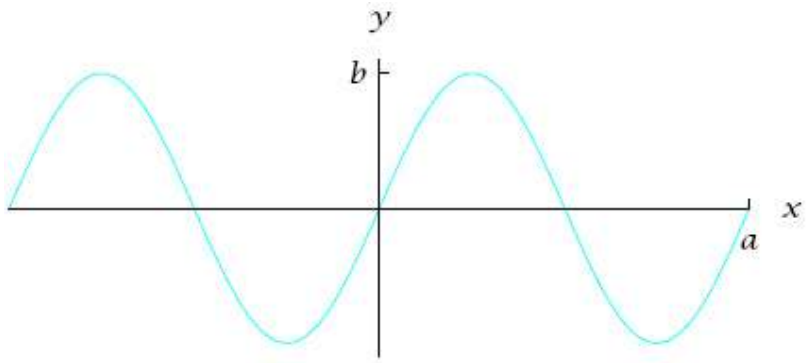
15. *Chapter 6, Section 6.1, Question 008



Suppose the figure above is part of the graph of the function $9\sin(9x)$. What is the value of a?

$a =$

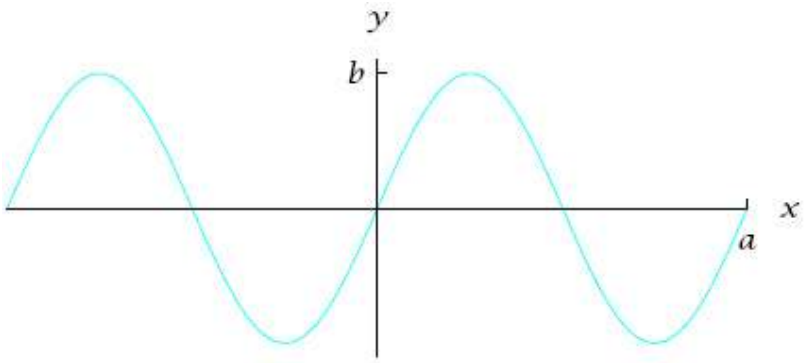
16. Chapter 6, Section 6.1, Question 010



Find the smallest positive number c such that the figure above is part of the graph of the function $\sin(x - c)$.

$c =$

17. Chapter 6, Section 6.1, Question 012



Find the smallest positive number c such that the figure above is part of the graph of the function $\cos(x + c)$.

[Hint: The correct answer is not $\frac{\pi}{2}$.]

$c =$

18. *Chapter 6, Section 6.1, Question 013b

What is the range of the function $5 + \cos X$?

Enter your answer in interval notation.

Range =

19. *Chapter 6, Section 6.1, Question 013d

What is the period of the function $5 + \cos X$?

Period =

20. *Chapter 6, Section 6.1, Question 014c

What is the amplitude of the function $3 - \cos x$?

Amplitude = **1** *1

Significant digits not applicable; exact number, no tolerance

21. *Chapter 6, Section 6.1, Question 018c

What is the amplitude of the function $9\cos(3\pi x)$?

Amplitude = **9** *1

Significant digits not applicable; exact number, no tolerance

22. *Chapter 6, Section 6.1, Question 018d

What is the period of the function $6\cos(3\pi x)$?

Enter an exact answer.

Period = **2/3**

23. *Chapter 6, Section 6.1, Question 022

Assume that f is the function defined by

$$f(x) = a\cos(bx + c) + d,$$

where a, b, c, and d are constants.

Find two distinct values for a so that f has amplitude $\frac{9}{5}$.

Enter the exact answers in increasing order.

$a =$

$a =$

24. *Chapter 6, Section 6.1, Question 030

Assume that f is the function defined by

$$f(x) = a\cos(bx + c) + d$$

where a, b, c, and d are constants.

Find values for a, d, c, and b with $a > 0$ and $b > 0$ and $0 \le c \le \pi$, so that f has range $[-7,3]$, $f(0) = -3$, and f has period 10.

Enter the exact answers.
a =

5

d = **-2**

$c =$

$b =$