Angles, Radian Measure, and the Unit Circle

Angle measure, radian fluency, and the unit-circle definitions of trig functions.

Name _____ Date _____

32 main · 2-up grid · 12 pages · visible side quests

Completion Reward

Shown here as a small pack artifact, not a preview destination.

1. What does one radian measure compare?

A. Diameter to circumference
B. Slope to intercept
C. Area to perimeter
D. Arc length to radius length

1.1. pi radians equals:

A. 90 degrees
B. 180 degrees
C. 270 degrees
D. 360 degrees

1.2. pi / 2 radians equals:

A. 45 degrees
B. 90 degrees
C. 120 degrees
D. 180 degrees

1.3. Which direction is positive rotation in standard position?

A. clockwise
B. counterclockwise
C. straight down
D. toward the origin

1.4. What makes two angles coterminal?

A. they have the same reference angle only
B. they end at the same terminal side
C. they are both acute
D. they have the same tangent value only

1.5. Which angle is coterminal with 45 degrees?

A. 135 degrees
B. 225 degrees
C. 405 degrees
D. 315 degrees

2. Which direction is positive rotation in standard position?

A. Clockwise
B. Straight down
C. Toward the y-axis only
D. Counterclockwise

2.1. pi radians equals:

A. 90 degrees
B. 180 degrees
C. 270 degrees
D. 360 degrees

2.2. pi / 2 radians equals:

A. 45 degrees
B. 90 degrees
C. 120 degrees
D. 180 degrees

2.3. Which direction is positive rotation in standard position?

A. clockwise
B. counterclockwise
C. straight down
D. toward the origin

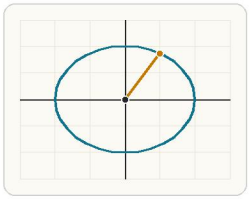
2.4. What makes two angles coterminal?

A. they have the same reference angle only
B. they end at the same terminal side
C. they are both acute
D. they have the same tangent value only

2.5. Which angle is coterminal with 45 degrees?

A. 135 degrees
B. 225 degrees
C. 405 degrees
D. 315 degrees

3. On the unit circle, what coordinates match angle t?



For an angle t on the unit circle, the x-coordinate is cos(t) and the y-coordinate is sin(t).

A. (cos(t), sin(t))
B. (sin(t), cos(t))
C. (tan(t), 1)
D. (1, tan(t))

3.1. What point is on the unit circle at 0 radians?

A. (0, 1)
B. (1, 0)
C. (-1, 0)
D. (0, -1)

3.2. Which angle ends at the point (0, 1)?

A. 0
B. pi / 2
C. pi
D. 3pi / 2

3.3. Which coordinates match angle pi / 4?

A. (sqrt(2)/2, sqrt(2)/2)
B. (1/2, sqrt(3)/2)
C. (0, 1)
D. (-sqrt(2)/2, sqrt(2)/2)

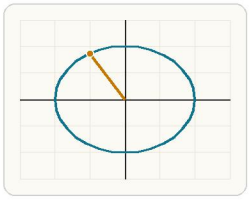
3.4. Which coordinates match 2pi / 3?

A. (1/2, sqrt(3)/2)
B. (-1/2, sqrt(3)/2)
C. (-sqrt(3)/2, 1/2)
D. (0, -1)

3.5. Which angle ends at the point (0, -1)?

A. pi / 2
B. pi
C. 3pi / 2
D. 2pi

4. In Quadrant II, which trig values have the same sign pattern as the point coordinates?



In Quadrant II, x is negative and y is positive, so cosine is negative while sine is positive.

A. cosine positive and sine positive
B. cosine negative and sine negative
C. cosine negative and sine positive
D. cosine positive and sine negative

4.1. In Quadrant II, cosine is:

A. positive
B. negative
C. undefined
D. always 0

4.2. In Quadrant II, which pair has the correct sign pattern?

A. sin positive, cos negative
B. sin negative, cos positive
C. both positive
D. both negative

4.3. In Quadrant III, sine is:

A. positive
B. negative
C. undefined
D. always 1

4.4. In Quadrant III, tangent is:

A. positive
B. negative
C. undefined
D. always 0

4.5. A student says cos(2pi / 3) is positive because 2pi / 3 is in Quadrant II. What is the mistake?

A. Quadrant II has negative cosine
B. Quadrant II has undefined cosine
C. Quadrant II has cosine 0
D. nothing is wrong

5. What is a reference angle?

A. The angle between the terminal side and the y-axis
B. The acute angle between the terminal side and the x-axis
C. The angle from the negative x-axis only
D. The angle after one full rotation

5.1. A reference angle is:

A. the angle from the positive y-axis
B. the acute angle to the x-axis
C. always the same as the original angle
D. the radius of the circle

5.2. What is the reference angle for 5pi / 6?

A. pi / 6
B. pi / 3
C. 5pi / 6
D. 7pi / 6

5.3. What is a good first step when finding sin(5pi / 6)?

A. find the reference angle
B. convert to slope-intercept form
C. use a determinant
D. subtract 2pi

5.4. At which angle is tan(theta) undefined?

A. 0
B. pi / 4
C. pi / 2
D. pi

5.5. What is tan(pi / 4)?

A. 0
B. 1
C. sqrt(2)
D. undefined

6. What makes two angles coterminal?

A. They have the same reference angle only.
B. They end at the same terminal side.
C. They are both acute.
D. They add to 180 degrees.

6.1. pi radians equals:

A. 90 degrees
B. 180 degrees
C. 270 degrees
D. 360 degrees

6.2. pi / 2 radians equals:

A. 45 degrees
B. 90 degrees
C. 120 degrees
D. 180 degrees

6.3. Which direction is positive rotation in standard position?

A. clockwise
B. counterclockwise
C. straight down
D. toward the origin

6.4. What makes two angles coterminal?

A. they have the same reference angle only
B. they end at the same terminal side
C. they are both acute
D. they have the same tangent value only

6.5. Which angle is coterminal with 45 degrees?

A. 135 degrees
B. 225 degrees
C. 405 degrees
D. 315 degrees

7. Which angle ends at the point (0, 1) on the unit circle?

A. 45 degrees
B. 90 degrees
C. 180 degrees
D. 270 degrees

7.1. What point is on the unit circle at 0 radians?

A. (0, 1)
B. (1, 0)
C. (-1, 0)
D. (0, -1)

7.2. Which angle ends at the point (0, 1)?

A. 0
B. pi / 2
C. pi
D. 3pi / 2

7.3. Which coordinates match angle pi / 4?

A. (sqrt(2)/2, sqrt(2)/2)
B. (1/2, sqrt(3)/2)
C. (0, 1)
D. (-sqrt(2)/2, sqrt(2)/2)

7.4. Which coordinates match 2pi / 3?

A. (1/2, sqrt(3)/2)
B. (-1/2, sqrt(3)/2)
C. (-sqrt(3)/2, 1/2)
D. (0, -1)

7.5. Which angle ends at the point (0, -1)?

A. pi / 2
B. pi
C. 3pi / 2
D. 2pi

8. Which angle ends at the point (-1, 0) on the unit circle?

A. 180 degrees
B. 90 degrees
C. 270 degrees
D. 360 degrees

8.1. What point is on the unit circle at 0 radians?

A. (0, 1)
B. (1, 0)
C. (-1, 0)
D. (0, -1)

8.2. Which angle ends at the point (0, 1)?

A. 0
B. pi / 2
C. pi
D. 3pi / 2

8.3. Which coordinates match angle pi / 4?

A. (sqrt(2)/2, sqrt(2)/2)
B. (1/2, sqrt(3)/2)
C. (0, 1)
D. (-sqrt(2)/2, sqrt(2)/2)

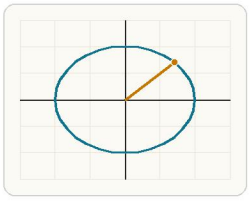
8.4. Which coordinates match 2pi / 3?

A. (1/2, sqrt(3)/2)
B. (-1/2, sqrt(3)/2)
C. (-sqrt(3)/2, 1/2)
D. (0, -1)

8.5. Which angle ends at the point (0, -1)?

A. pi / 2
B. pi
C. 3pi / 2
D. 2pi

9. Which coordinates match angle pi / 4?



The pi / 4 point lies equally far in x and y from the axes, so cosine and sine are equal there.

A. (1 / 2, sqrt(3) / 2)
B. (0, 1)
C. (sqrt(2) / 2, sqrt(2) / 2)
D. (-sqrt(2) / 2, sqrt(2) / 2)

9.1. What point is on the unit circle at 0 radians?

A. (0, 1)
B. (1, 0)
C. (-1, 0)
D. (0, -1)

9.2. Which angle ends at the point (0, 1)?

A. 0
B. pi / 2
C. pi
D. 3pi / 2

9.3. Which coordinates match angle pi / 4?

A. (sqrt(2)/2, sqrt(2)/2)
B. (1/2, sqrt(3)/2)
C. (0, 1)
D. (-sqrt(2)/2, sqrt(2)/2)

9.4. Which coordinates match 2pi / 3?

A. (1/2, sqrt(3)/2)
B. (-1/2, sqrt(3)/2)
C. (-sqrt(3)/2, 1/2)
D. (0, -1)

9.5. Which angle ends at the point (0, -1)?

A. pi / 2
B. pi
C. 3pi / 2
D. 2pi

10. Which coordinates match angle 2pi / 3?

A. (1 / 2, sqrt(3) / 2)
B. (-sqrt(3) / 2, 1 / 2)
C. (-1 / 2, sqrt(3) / 2)
D. (sqrt(3) / 2, -1 / 2)

10.1. What point is on the unit circle at 0 radians?

A. (0, 1)
B. (1, 0)
C. (-1, 0)
D. (0, -1)

10.2. Which angle ends at the point (0, 1)?

A. 0
B. pi / 2
C. pi
D. 3pi / 2

10.3. Which coordinates match angle pi / 4?

A. (sqrt(2)/2, sqrt(2)/2)
B. (1/2, sqrt(3)/2)
C. (0, 1)
D. (-sqrt(2)/2, sqrt(2)/2)

10.4. Which coordinates match 2pi / 3?

A. (1/2, sqrt(3)/2)
B. (-1/2, sqrt(3)/2)
C. (-sqrt(3)/2, 1/2)
D. (0, -1)

10.5. Which angle ends at the point (0, -1)?

A. pi / 2
B. pi
C. 3pi / 2
D. 2pi

11. Which angle ends at the point (0, -1)?

A. 3pi / 2
B. pi / 2
C. pi
D. 2pi

11.1. What point is on the unit circle at 0 radians?

A. (0, 1)
B. (1, 0)
C. (-1, 0)
D. (0, -1)

11.2. Which angle ends at the point (0, 1)?

A. 0
B. pi / 2
C. pi
D. 3pi / 2

11.3. Which coordinates match angle pi / 4?

A. (sqrt(2)/2, sqrt(2)/2)
B. (1/2, sqrt(3)/2)
C. (0, 1)
D. (-sqrt(2)/2, sqrt(2)/2)

11.4. Which coordinates match 2pi / 3?

A. (1/2, sqrt(3)/2)
B. (-1/2, sqrt(3)/2)
C. (-sqrt(3)/2, 1/2)
D. (0, -1)

11.5. Which angle ends at the point (0, -1)?

A. pi / 2
B. pi
C. 3pi / 2
D. 2pi

12. Which angle is coterminal with 30 degrees?

A. 150 degrees
B. 390 degrees
C. 60 degrees
D. -30 degrees

12.1. pi radians equals:

A. 90 degrees
B. 180 degrees
C. 270 degrees
D. 360 degrees

12.2. pi / 2 radians equals:

A. 45 degrees
B. 90 degrees
C. 120 degrees
D. 180 degrees

12.3. Which direction is positive rotation in standard position?

A. clockwise
B. counterclockwise
C. straight down
D. toward the origin

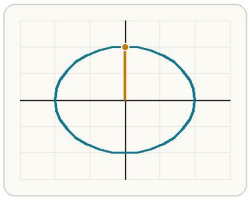
12.4. What makes two angles coterminal?

A. they have the same reference angle only
B. they end at the same terminal side
C. they are both acute
D. they have the same tangent value only

12.5. Which angle is coterminal with 45 degrees?

A. 135 degrees
B. 225 degrees
C. 405 degrees
D. 315 degrees

13. At which angle is tan(theta) undefined?



Since tan(theta) = sin(theta) / cos(theta), tangent is undefined at angles where the x-coordinate on the unit circle is 0.

A. pi / 4
B. pi / 6
C. 0
D. pi / 2

13.1. pi radians equals:

A. 90 degrees
B. 180 degrees
C. 270 degrees
D. 360 degrees

13.2. pi / 2 radians equals:

A. 45 degrees
B. 90 degrees
C. 120 degrees
D. 180 degrees

13.3. What point is on the unit circle at 0 radians?

A. (0, 1)
B. (1, 0)
C. (-1, 0)
D. (0, -1)

13.4. On the unit circle, cosine is the:

A. x-coordinate
B. y-coordinate
C. radius
D. angle measure

13.5. In Quadrant II, sine is:

A. negative
B. positive
C. undefined
D. always 0

14. What is the best first step when finding sin(5pi / 6)?

A. Square the angle.
B. Differentiate the function.
C. Identify the reference angle and the quadrant.
D. Take the reciprocal of the angle.

14.1. A reference angle is:

A. the angle from the positive y-axis
B. the acute angle to the x-axis
C. always the same as the original angle
D. the radius of the circle

14.2. What is the reference angle for 5pi / 6?

A. pi / 6
B. pi / 3
C. 5pi / 6
D. 7pi / 6

14.3. What is a good first step when finding sin(5pi / 6)?

A. find the reference angle
B. convert to slope-intercept form
C. use a determinant
D. subtract 2pi

14.4. At which angle is tan(theta) undefined?

A. 0
B. pi / 4
C. pi / 2
D. pi

14.5. What is tan(pi / 4)?

A. 0
B. 1
C. sqrt(2)
D. undefined

15. A student says cos(2pi / 3) is positive because the angle is in Quadrant II. What is the mistake?

A. Cosine matches the x-coordinate, which is negative in Quadrant II.
B. Quadrant II has both coordinates positive.
C. Cosine always matches the y-coordinate.
D. Cosine is undefined in Quadrant II.

15.1. In Quadrant II, cosine is:

A. positive
B. negative
C. undefined
D. always 0

15.2. In Quadrant II, which pair has the correct sign pattern?

A. sin positive, cos negative
B. sin negative, cos positive
C. both positive
D. both negative

15.3. In Quadrant III, sine is:

A. positive
B. negative
C. undefined
D. always 1

15.4. In Quadrant III, tangent is:

A. positive
B. negative
C. undefined
D. always 0

15.5. A student says cos(2pi / 3) is positive because 2pi / 3 is in Quadrant II. What is the mistake?

A. Quadrant II has negative cosine
B. Quadrant II has undefined cosine
C. Quadrant II has cosine 0
D. nothing is wrong

16. Convert pi / 3 radians to degrees. Answer with a number.

16.1. pi radians equals:

A. 90 degrees
B. 180 degrees
C. 270 degrees
D. 360 degrees

16.2. pi / 2 radians equals:

A. 45 degrees
B. 90 degrees
C. 120 degrees
D. 180 degrees

16.3. What point is on the unit circle at 0 radians?

A. (0, 1)
B. (1, 0)
C. (-1, 0)
D. (0, -1)

16.4. On the unit circle, cosine is the:

A. x-coordinate
B. y-coordinate
C. radius
D. angle measure

16.5. In Quadrant II, sine is:

A. negative
B. positive
C. undefined
D. always 0

17. Convert 3pi / 2 radians to degrees. Answer with a number.

17.1. pi radians equals:

A. 90 degrees
B. 180 degrees
C. 270 degrees
D. 360 degrees

17.2. pi / 2 radians equals:

A. 45 degrees
B. 90 degrees
C. 120 degrees
D. 180 degrees

17.3. What point is on the unit circle at 0 radians?

A. (0, 1)
B. (1, 0)
C. (-1, 0)
D. (0, -1)

17.4. On the unit circle, cosine is the:

A. x-coordinate
B. y-coordinate
C. radius
D. angle measure

17.5. In Quadrant II, sine is:

A. negative
B. positive
C. undefined
D. always 0

18. Find sin(pi / 6). Enter as a decimal. Answer with a number.

18.1. A reference angle is:

A. the angle from the positive y-axis
B. the acute angle to the x-axis
C. always the same as the original angle
D. the radius of the circle

18.2. What is the reference angle for 5pi / 6?

A. pi / 6
B. pi / 3
C. 5pi / 6
D. 7pi / 6

18.3. What is a good first step when finding sin(5pi / 6)?

A. find the reference angle
B. convert to slope-intercept form
C. use a determinant
D. subtract 2pi

18.4. At which angle is tan(theta) undefined?

A. 0
B. pi / 4
C. pi / 2
D. pi

18.5. What is tan(pi / 4)?

A. 0
B. 1
C. sqrt(2)
D. undefined

19. Find cos(pi / 3). Enter as a decimal. Answer with a number.

19.1. A reference angle is:

A. the angle from the positive y-axis
B. the acute angle to the x-axis
C. always the same as the original angle
D. the radius of the circle

19.2. What is the reference angle for 5pi / 6?

A. pi / 6
B. pi / 3
C. 5pi / 6
D. 7pi / 6

19.3. What is a good first step when finding sin(5pi / 6)?

A. find the reference angle
B. convert to slope-intercept form
C. use a determinant
D. subtract 2pi

19.4. At which angle is tan(theta) undefined?

A. 0
B. pi / 4
C. pi / 2
D. pi

19.5. What is tan(pi / 4)?

A. 0
B. 1
C. sqrt(2)
D. undefined

20. Find tan(pi / 4). Answer with a number.

20.1. What point is on the unit circle at 0 radians?

A. (0, 1)
B. (1, 0)
C. (-1, 0)
D. (0, -1)

20.2. Which angle ends at the point (0, 1)?

A. 0
B. pi / 2
C. pi
D. 3pi / 2

20.3. Which coordinates match angle pi / 4?

A. (sqrt(2)/2, sqrt(2)/2)
B. (1/2, sqrt(3)/2)
C. (0, 1)
D. (-sqrt(2)/2, sqrt(2)/2)

20.4. Which coordinates match 2pi / 3?

A. (1/2, sqrt(3)/2)
B. (-1/2, sqrt(3)/2)
C. (-sqrt(3)/2, 1/2)
D. (0, -1)

20.5. Which angle ends at the point (0, -1)?

A. pi / 2
B. pi
C. 3pi / 2
D. 2pi

21. Find the reference angle of 210 degrees. Answer in degrees.

21.1. A reference angle is:

A. the angle from the positive y-axis
B. the acute angle to the x-axis
C. always the same as the original angle
D. the radius of the circle

21.2. What is the reference angle for 5pi / 6?

A. pi / 6
B. pi / 3
C. 5pi / 6
D. 7pi / 6

21.3. What is a good first step when finding sin(5pi / 6)?

A. find the reference angle
B. convert to slope-intercept form
C. use a determinant
D. subtract 2pi

21.4. At which angle is tan(theta) undefined?

A. 0
B. pi / 4
C. pi / 2
D. pi

21.5. What is tan(pi / 4)?

A. 0
B. 1
C. sqrt(2)
D. undefined

22. On the unit circle, what arc length matches angle pi / 2? Answer with a number.

22.1. pi radians equals:

A. 90 degrees
B. 180 degrees
C. 270 degrees
D. 360 degrees

22.2. pi / 2 radians equals:

A. 45 degrees
B. 90 degrees
C. 120 degrees
D. 180 degrees

22.3. What point is on the unit circle at 0 radians?

A. (0, 1)
B. (1, 0)
C. (-1, 0)
D. (0, -1)

22.4. On the unit circle, cosine is the:

A. x-coordinate
B. y-coordinate
C. radius
D. angle measure

22.5. In Quadrant II, sine is:

A. negative
B. positive
C. undefined
D. always 0

23. How many degrees separate two coterminal angles? Answer with a number.

23.1. pi radians equals:

A. 90 degrees
B. 180 degrees
C. 270 degrees
D. 360 degrees

23.2. pi / 2 radians equals:

A. 45 degrees
B. 90 degrees
C. 120 degrees
D. 180 degrees

23.3. What point is on the unit circle at 0 radians?

A. (0, 1)
B. (1, 0)
C. (-1, 0)
D. (0, -1)

23.4. On the unit circle, cosine is the:

A. x-coordinate
B. y-coordinate
C. radius
D. angle measure

23.5. In Quadrant II, sine is:

A. negative
B. positive
C. undefined
D. always 0

24. Which student correctly finds the reference angle of 300 degrees?

A. Student B: 300 - 180 = 120 degrees.
B. Student C: 300 + 60 = 360 degrees so the answer is 360 degrees.
C. Student A: 360 - 300 = 60 degrees.
D. Student D: The reference angle is 300 degrees.

24.1. A reference angle is:

A. the angle from the positive y-axis
B. the acute angle to the x-axis
C. always the same as the original angle
D. the radius of the circle

24.2. What is the reference angle for 5pi / 6?

A. pi / 6
B. pi / 3
C. 5pi / 6
D. 7pi / 6

24.3. What is a good first step when finding sin(5pi / 6)?

A. find the reference angle
B. convert to slope-intercept form
C. use a determinant
D. subtract 2pi

24.4. At which angle is tan(theta) undefined?

A. 0
B. pi / 4
C. pi / 2
D. pi

24.5. What is tan(pi / 4)?

A. 0
B. 1
C. sqrt(2)
D. undefined

25. Convert 60 degrees to radians. Answer as an exact expression.

25.1. pi radians equals:

A. 90 degrees
B. 180 degrees
C. 270 degrees
D. 360 degrees

25.2. pi / 2 radians equals:

A. 45 degrees
B. 90 degrees
C. 120 degrees
D. 180 degrees

25.3. What point is on the unit circle at 0 radians?

A. (0, 1)
B. (1, 0)
C. (-1, 0)
D. (0, -1)

25.4. On the unit circle, cosine is the:

A. x-coordinate
B. y-coordinate
C. radius
D. angle measure

25.5. In Quadrant II, sine is:

A. negative
B. positive
C. undefined
D. always 0

26. Convert 225 degrees to radians. Answer as an exact expression.

26.1. pi radians equals:

A. 90 degrees
B. 180 degrees
C. 270 degrees
D. 360 degrees

26.2. pi / 2 radians equals:

A. 45 degrees
B. 90 degrees
C. 120 degrees
D. 180 degrees

26.3. What point is on the unit circle at 0 radians?

A. (0, 1)
B. (1, 0)
C. (-1, 0)
D. (0, -1)

26.4. On the unit circle, cosine is the:

A. x-coordinate
B. y-coordinate
C. radius
D. angle measure

26.5. In Quadrant II, sine is:

A. negative
B. positive
C. undefined
D. always 0

27. State the unit-circle coordinates for angle pi / 2. Answer as an ordered pair.

27.1. What point is on the unit circle at 0 radians?

A. (0, 1)
B. (1, 0)
C. (-1, 0)
D. (0, -1)

27.2. Which angle ends at the point (0, 1)?

A. 0
B. pi / 2
C. pi
D. 3pi / 2

27.3. Which coordinates match angle pi / 4?

A. (sqrt(2)/2, sqrt(2)/2)
B. (1/2, sqrt(3)/2)
C. (0, 1)
D. (-sqrt(2)/2, sqrt(2)/2)

27.4. Which coordinates match 2pi / 3?

A. (1/2, sqrt(3)/2)
B. (-1/2, sqrt(3)/2)
C. (-sqrt(3)/2, 1/2)
D. (0, -1)

27.5. Which angle ends at the point (0, -1)?

A. pi / 2
B. pi
C. 3pi / 2
D. 2pi

28. State the unit-circle coordinates for angle pi. Answer as an ordered pair.

28.1. What point is on the unit circle at 0 radians?

A. (0, 1)
B. (1, 0)
C. (-1, 0)
D. (0, -1)

28.2. Which angle ends at the point (0, 1)?

A. 0
B. pi / 2
C. pi
D. 3pi / 2

28.3. Which coordinates match angle pi / 4?

A. (sqrt(2)/2, sqrt(2)/2)
B. (1/2, sqrt(3)/2)
C. (0, 1)
D. (-sqrt(2)/2, sqrt(2)/2)

28.4. Which coordinates match 2pi / 3?

A. (1/2, sqrt(3)/2)
B. (-1/2, sqrt(3)/2)
C. (-sqrt(3)/2, 1/2)
D. (0, -1)

28.5. Which angle ends at the point (0, -1)?

A. pi / 2
B. pi
C. 3pi / 2
D. 2pi

29. Convert 135 degrees to radians. Answer as an exact expression.

29.1. pi radians equals:

A. 90 degrees
B. 180 degrees
C. 270 degrees
D. 360 degrees

29.2. pi / 2 radians equals:

A. 45 degrees
B. 90 degrees
C. 120 degrees
D. 180 degrees

29.3. What point is on the unit circle at 0 radians?

A. (0, 1)
B. (1, 0)
C. (-1, 0)
D. (0, -1)

29.4. On the unit circle, cosine is the:

A. x-coordinate
B. y-coordinate
C. radius
D. angle measure

29.5. In Quadrant II, sine is:

A. negative
B. positive
C. undefined
D. always 0

30. Find sin(5pi / 6). Answer as an exact value.

30.1. pi radians equals:

A. 90 degrees
B. 180 degrees
C. 270 degrees
D. 360 degrees

30.2. pi / 2 radians equals:

A. 45 degrees
B. 90 degrees
C. 120 degrees
D. 180 degrees

30.3. What point is on the unit circle at 0 radians?

A. (0, 1)
B. (1, 0)
C. (-1, 0)
D. (0, -1)

30.4. On the unit circle, cosine is the:

A. x-coordinate
B. y-coordinate
C. radius
D. angle measure

30.5. In Quadrant II, sine is:

A. negative
B. positive
C. undefined
D. always 0

31. Find cos(5pi / 6). Answer as an exact value.

31.1. pi radians equals:

A. 90 degrees
B. 180 degrees
C. 270 degrees
D. 360 degrees

31.2. pi / 2 radians equals:

A. 45 degrees
B. 90 degrees
C. 120 degrees
D. 180 degrees

31.3. What point is on the unit circle at 0 radians?

A. (0, 1)
B. (1, 0)
C. (-1, 0)
D. (0, -1)

31.4. On the unit circle, cosine is the:

A. x-coordinate
B. y-coordinate
C. radius
D. angle measure

31.5. In Quadrant II, sine is:

A. negative
B. positive
C. undefined
D. always 0

32. Find tan(2pi / 3). Answer as an exact value.

32.1. pi radians equals:

A. 90 degrees
B. 180 degrees
C. 270 degrees
D. 360 degrees

32.2. pi / 2 radians equals:

A. 45 degrees
B. 90 degrees
C. 120 degrees
D. 180 degrees

32.3. What point is on the unit circle at 0 radians?

A. (0, 1)
B. (1, 0)
C. (-1, 0)
D. (0, -1)

32.4. On the unit circle, cosine is the:

A. x-coordinate
B. y-coordinate
C. radius
D. angle measure

32.5. In Quadrant II, sine is:

A. negative
B. positive
C. undefined
D. always 0