PROBLEMS AND SOLUTIONS - INTRODUCTION TO ANGLES

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PLEASE NOTE THAT YOU CANNOT ALWAYS USE A CALCULATOR ON THE ACCUPLACER - COLLEGE-LEVEL MATHEMATICS TEST! YOU MUST BE ABLE TO DO SOME PROBLEMS WITHOUT A CALCULATOR!

Problem 1:

Change $45^o\ 14'\ 39''$ (45 degrees and 14 minutes and 39 seconds) to decimal degree form. Round to two decimal places.

Problem 2:

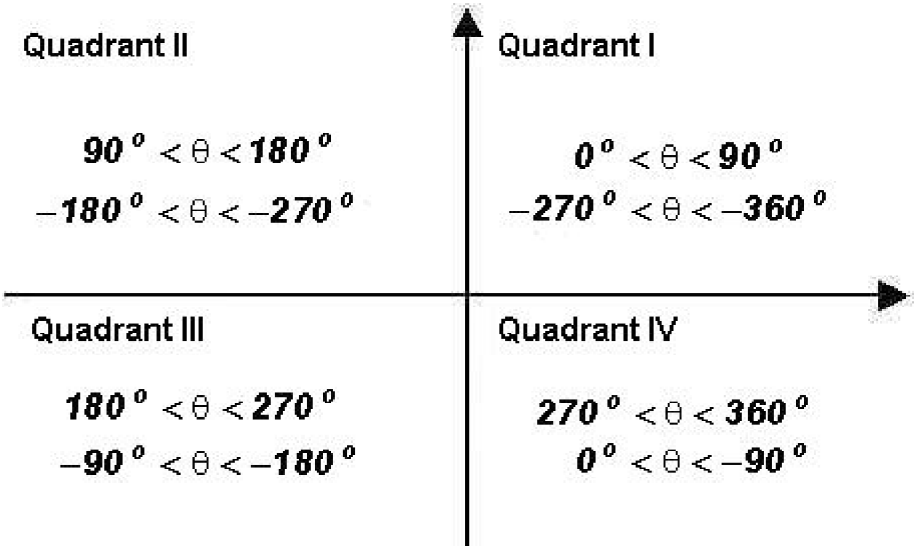
Change $-45^o\ 14'\ 39''$ to decimal degree form. Round to two decimal places.

Problem 3:

Change 84.78^o to degrees, minutes, and seconds rounded to whole numbers.

Problem 4:

Find the location of the terminal side of the following angles in degrees utilizing the chart below.



a. 57^o

b. -57^o

c. 145^o

d. -145^o

e. 236^o

f. 315^o

g. 495^o

h. -396^o

Problem 5:

Find a positive angle that is smaller than 360^o and is coterminal with angle 420^o.

Problem 6:

Find a positive angle that is smaller than 360^o and is coterminal with a -120^o angle.

Problem 7:

Find all angles that are coterminal with a 315^o angle.

Problem 8:

Find the reference angle for a 57^o angle.

Problem 9:

Find the reference angle for a -57^o angle.

Problem 10:

Find the reference angle for a 145^o angle.

Problem 11:

Find the reference angle for a -145^o angle.

Problem 12:

Find the reference angle for a 236^o angle.

Problem 13:

Find the reference angle for a 315^o angle.

Problem 14:

Find the reference angle for a 495^o angle.

Problem 15:

Find the reference angle for a -396^{o} angle.

Problem 16:

Express 315^{o} in EXACT radians reduced to lowest terms.

Problem 17:

Express 330^{o} in EXACT radians reduced to lowest terms.

Problem 18:

Express 120^{o} in EXACT radians reduced to lowest terms.

Problem 19:

Express 164^{o} in EXACT radians reduced to lowest terms.

Problem 20:

Express -46.52^{o} in radians rounded to two decimal places. **Use the π key on your calculator instead of 3.14.**

Problem 21:

Express the radian measure $-\frac{4\pi}{3}$ in EXACT degree measure reduced to lowest terms.

Problem 22:

Express the radian measure $\frac{11\pi}{36}$ in EXACT degree measure reduced to lowest terms.

Problem 23:

Express the radian measure $\frac{6\pi}{7}$ in degree measure rounded to two decimal places. **Use the π key on your calculator instead of 3.14.**

Problem 24:

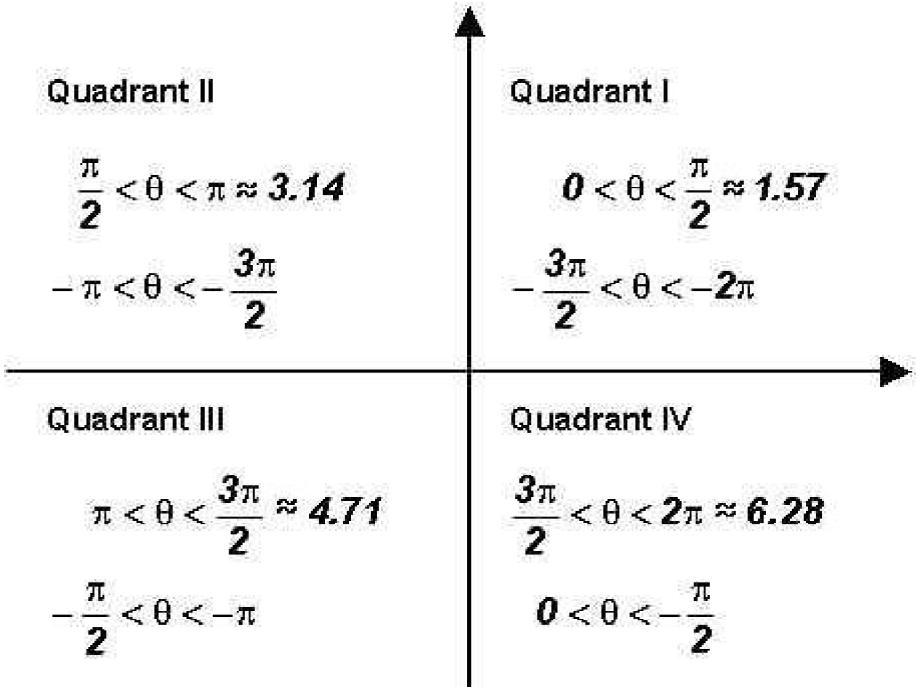
Express the radian measure 4.8 in degree measure rounded to two decimal places. **Use the π key on your calculator instead of 3.14.**

Problem 25:

Express the radian measure 5 in degree measure rounded to two decimal places. **Use the π key on your calculator instead of 3.14 .**

Problem 26:

Find the location of the terminal side of the following angles in radians utilizing the chart below.



a. 1.3
b. $\pi/3$
c. 2.7
d. $3\pi/4$
e. 4.2
f. $7\pi/6$
g. 5.3
h. $5\pi/3$
i. -1.3
j. $-\pi/3$
k. $-7\pi/3$
l. 8.98

Problem 27:

Find a positive angle in radians that is smaller than 2π and is coterminal with an angle of radian measure $7\pi/3$.

Problem 28:

Find a positive angle in radians that is smaller than 2π and is coterminal with an angle of radian measure $-2\pi/3$.

Problem 29:

Find all angles that are coterminal with the angle $7\pi/4$.

Problem 30:

Find the reference angle in radians for an angle with radian measure 1.3.

Problem 31:

Find the reference angle in radians for an angle with radian measure -1.3.

Problem 32:

Find the EXACT reference angle in radians for an angle with radian measure $\pi/3$.

Problem 33:

Find the reference angle for an angle with radian measure 2.7 rounded to two decimal places. **Use the π key on your calculator instead of 3.14.**

Problem 34:

Find the reference angle for an angle with radian measure -2.7 rounded to two decimal places. **Use the π key on your calculator instead of 3.14.**

Problem 35:

Find the EXACT reference angle in radians for an angle with radian measure $3\pi/4$.

Problem 36:

Find the reference angle in radians for an angle with radian measure 4.2 rounded to two decimal places. **Use the π key on your calculator instead of 3.14.**

Problem 37:

Find the reference angle for an angle with radian measure 5.3 rounded to two decimal places. **Use the π key on your calculator instead of 3.14.**

Problem 38:

Find the reference angle for an angle with radian measure 11.08 rounded to two decimal places. **Use the π key on your calculator instead of 3.14.**

Problem 39:

Find the EXACT reference angle in radians for an angle with radian measure $-9\pi/4$.

SOLUTIONS

You can find detailed solutions below the link for this problem set!

1. 45.24°	2. -45.24°	3. $84^\circ\ 46'\ 48''$
4. a. QI b. QIV c. QII d. QIII e. QIII f. QIV g. QII h. QIV	5. 60°	6. 240°
7. $315^\circ + 360^\circ k$, where k is any integer	8. 57°	9. 57°
10. 35°	11. 35°	12. 56°
13. 45°	14. 45°	15. 36°
16. $7\pi/4$	17. $11\pi/6$	18. $2\pi/3$
19. $41\pi/45$	20. -0.81	21. -240°
22. 55°	23. 154.29°	24. 275.02°
25. 268.48°	26. a. QI b. QI c. QII d. QII e. QIII f. QIII g. QIV h. QIV i. QIV j. QIV k. QIV l. QII	27. $\pi/3$
28. $4\pi/3$	29. $7\pi/4 + 2\pi k$, where k is any integer	30. 1.3
31. 1.3	32. $\pi/3$.	33. 0.44
34. 0.44	35. $\pi/4$	36. 1.06
37. 0.98	38. 1.48	39. $\pi/4$