Math 51 (9:30am – 10:20am)
Quiz 2
Fri Apr 17, 2009

SCORE: ___ / 20 POINTS

KEY

What month is your birthday ? ___ ___
What are the first 2 digits of your address ? ___ ___
What are the last 2 digits of your zip code ? ___ ___
What are the last 2 digits of your social security number ? ___ ___
[IF YOU DO NOT HAVE A SOCIAL SECURITY NUMBER, USE YOUR STUDENT ID NUMBER]

NO CALCULATORS ALLOWED

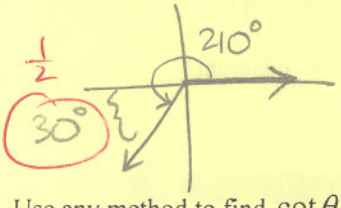
Fill in the trigonometric function values. **SCORE: ___ / 3 POINTS**

θ	$\sin\theta$	$\cos\theta$	$\tan\theta$
0°	0	1	0
30°	$\frac{1}{2}$	$\frac{\sqrt{3}}{2}$	$\frac{\sqrt{3}}{3}$
45°	$\frac{\sqrt{2}}{2}$	$\frac{\sqrt{2}}{2}$	1
60°	$\frac{\sqrt{3}}{2}$	$\frac{1}{2}$	$\sqrt{3}$
90°	1	0	UNDEF

$-\frac{1}{2}$ FOR EACH ERROR
MINIMUM: 0 POINTS

Find $\cos 570°$. **YOU MUST SHOW PROPER WORK.** **SCORE: ___ / 3 POINTS**

570° IS COTERMINAL WITH $570° - 360° = 210°$ IN Q_3, SO $\cos 570° < 0$ (1/2)

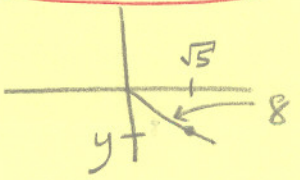


$\cos 570° = -\frac{\sqrt{3}}{2}$ (1)

Use any method to find $\cot\theta$ if $\cos\theta = \frac{\sqrt{5}}{8}$ and $\tan\theta < 0$. **YOU MUST SHOW PROPER WORK.** **SCORE: ___ / 3 POINTS**

$x = \sqrt{5}$, $r = 8$ (1/2)

θ IS IN Q_4 (1/2)

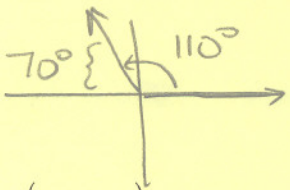


$8^2 = \sqrt{5}^2 + y^2$
$59 = y^2$
$y = \pm\sqrt{59}$
$y < 0$ SO $y = -\sqrt{59}$ (1)

$\cot\theta = \frac{x}{y}$
$= \frac{\sqrt{5}}{-\sqrt{59}}$
$= -\frac{\sqrt{295}}{59}$ (1)

Find the reference angle for $-610°$. **YOU MUST SHOW PROPER WORK.** **SCORE: ___ / 2 POINTS**

$-610°$ IS COTERMINAL WITH $-610° + 360° \times 2 = 110°$ IN Q_2 (1)



$70°$ (1)

Write $\cot(\alpha + 20°)$ in terms of its cofunction. **SCORE: ___ / 1 POINT**

$\tan(90° - (\alpha + 20°)) = \tan(70° - \alpha)$ (1/2, 1/2)

QUESTIONS ON OTHER SIDE

Use an identity **(NOT *x, y* and *r*)** to find $\sec\theta$ if $\tan\theta = \frac{\sqrt{7}}{3}$ and θ is in the third quadrant. .

SCORE: ___ / 3 POINTS

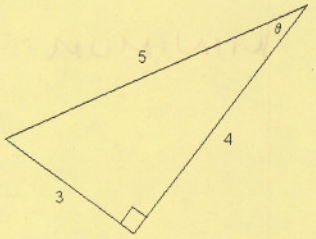
$\sec^2\theta = \tan^2\theta + 1$ 1

$= \frac{7}{9} + 1$

$= \frac{16}{9}$ 1

$\sec\theta = \pm\frac{4}{3}$ SINCE θ IS IN Q_3, $\sec\theta < 0$ SO $\sec\theta = -\frac{4}{3}$ 1

Multiple Choice – You do NOT need to show work



Find $\cos\theta$ in the figure.

SCORE: ___ / 1 POINT

[a] $\frac{3}{4}$ [b] $\frac{3}{5}$ [c] $\frac{4}{3}$ [d] $\frac{4}{5}$ [e] $\frac{5}{3}$ [f] $\frac{5}{4}$

LETTER OF CORRECT ANSWER: D

Identify the quadrant of an angle θ if $\tan\theta > 0$ and $\csc\theta < 0$.

SCORE: ___ / 1 POINT

[a] 1st quadrant [b] 2nd quadrant [c] 3rd quadrant [d] 4th quadrant

LETTER OF CORRECT ANSWER: C

Consider the following statements:

SCORE: ___ / 1 POINTS

[1] $\tan\theta = 110.47$
[2] $\sec\alpha = 0.6$

Which of the above statements is/are possible ?

[a] [1] and [2] are both possible
[b] only [1] is possible
[c] only [2] is possible
[d] neither statement is possible

LETTER OF CORRECT ANSWER: B

$\cot(-450^\circ) =$

SCORE: ___ / 2 POINTS

[a] 0 [b] 1 [c] –1 [d] undefined

LETTER OF CORRECT ANSWER: A