Hot Seat

Circular Functions

Rules

- No talking
- Student in back works question on markerboard and passes it forward to next student when done with Step 1.
- If the next student agrees, he/she passes the markerboard forward. If he/she disagrees, he/she passes the markerboard backward.

Points

- First group to turn in the correct markerboard will be awarded the most points. A point will be subtracted for the next team to turn in the correct index card and so on.
- -5 Points for talking or looking at person behind you.
- -5 Points for turning in incorrect or no markerboard.
- Team with most points at the end wins!

Problem 1

- Without using a calculator, find $\sin\theta$ if $\cos\theta = \frac{3}{5}$ and $\tan\theta > 0$

Solution 1

- $\sin\theta = \frac{4}{5}$

Problem 2

- Without using a calculator, find $\cos\theta$ if $\sin\theta = \frac{5}{13}$ and $\tan\theta < 0$

Solution 2

- $\cos\theta = -\frac{12}{13}$

Problem 3

- Without using a calculator, find $\cos\theta$ if $\sin\theta = \frac{2}{3}$ and $\cot\theta > 0$

Solution 3

- $\cos\theta = \frac{\sqrt{5}}{3}$

Problem 4

- Without using a calculator, find $\tan\theta$ if $\sin\theta = \frac{2}{3}$ and $\cot\theta > 0$

Solution 4

- $\tan\theta = \frac{2}{\sqrt{5}}$ or $\frac{2\sqrt{5}}{5}$

Problem 5

- Without using a calculator, find $\cos\theta$ if $\sin\theta = \frac{1}{4}$ and $\tan\theta < 0$

Solution 5

- $\cos\theta = -\frac{\sqrt{15}}{4}$

Problem 6

- Without using a calculator, find $\cot\theta$ if $\sin\theta = \frac{1}{4}$ and $\tan\theta < 0$

Solution 6

- $\cot\theta = -\sqrt{15}$

Problem 7

- Without using a calculator, find $\cos\theta$ if $\cot\theta = -\frac{4}{3}$ and $\sec\theta < 0$

Solution 7

- $\cos\theta = -\frac{4}{5}$

Problem 8

- Without using a calculator, find $\tan\theta$ if $\cot\theta = -\frac{4}{3}$ and $\sec\theta < 0$

Solution 8

- $\tan\theta = -\frac{4}{3}$

Problem 9

- Without using a calculator, find $\tan\theta$ if $\sin\theta = -\frac{2}{5}$ and $\cos\theta > 0$

Solution 9

- $\tan\theta = -\frac{2}{\sqrt{21}}$ or $-\frac{2\sqrt{21}}{21}$

Problem 10

- Without using a calculator, find $\sec\theta$ if $\sin\theta = -\frac{2}{5}$ and $\cos\theta > 0$

Solution 10

- $\sec\theta = \frac{5}{\sqrt{21}}$ or $\frac{5\sqrt{21}}{21}$