

Trigonometry Corrections

Trig Student

19B #17

Using rectangular equation:

$$(X - 1)^2 + Y^2 = 3$$

origin of circle is (1, 0)

radius is $\sqrt{3}$

Using polar equation: solve by completing the square with r as the unknown

$$r^2 = 2(r \cos \theta + 1)$$

$$r^2 = 2r \cos \theta + 2$$

$$r^2 - 2r \cos \theta + \cos^2 \theta = 2 + \cos^2 \theta$$

$$(r^2 - 2r \cos \theta + \cos^2 \theta) = 2 + \cos^2 \theta$$

$$(r - \cos \theta)^2 = 2 + \cos^2 \theta$$

$$r - \cos \theta = \sqrt{2 + \cos^2 \theta} \pm \cos \theta$$

substitute desired values for θ

21A 11) graph was redrawn with a period of 1, not 2

24D #8 should read $\log_{10} .0001 = X$

Trig Solutions

5C 6) $\tan \theta = 1.2593$, $\arctan = 51.55^\circ$ or $51^\circ 33'$ $\alpha = 38.45^\circ$ or $38^\circ 27'$

Please note that you may find slight variations in the degrees-minutes-seconds form depending on how you rounded the intermediate steps. This is not a problem. In real life the application will determine the degree of accuracy needed.

7C 7) $\csc = -2\sqrt{3} / 3$

9A 5) on right hand side, keep denominator $\cos \theta \sin \theta - \cos \theta$ for all except first step

11A 15) $A = 9.98$

15C 1) for $b = 58.3$, $B = 100^\circ$ and $A = 51^\circ$

16C 18) for $a = 272.1$, $A = 98.9^\circ$ and $C = 48.1^\circ$

For problems like 15C and 16C, there are two positive values for the sine function, one in the 1st quadrant and one in the 2nd, or an acute and an obtuse angle.

Subtract the value given by your calculator from 180° to get the other value and choose the one that fits the sketch you have made. See 14-3 in the Teacher Manual.

21A 11) graph redrawn with period of 1, not 2; equation is correct

12) $1/2 \cos X - 1/2$

21B 9) $y = \cos 1/2X + 1/2$

21C & D #'s 7 & 8: Trig function in answer should match trig function in the question.

24D #8 should read: $\log_{10} .0001 = X$

$$10^X = .0001$$

$$X = -4$$

Trig Teacher

8-1 $\sec 37 = 5/4$, not $5/3$; $\csc 53 = 5/4$, not $5/3$

9-1 in list of trig identities, tangent identity should

read: $\tan = \frac{\text{opp}}{\text{adj}} = \frac{\sin}{\cos}$

Trig Tests

Test 3 #10-answers for C & D should say θ , not α

Test 10 #10- denominator in question should have plus sign

Test 22 # 10: graph should appear as follows:

