2nd trace intersect

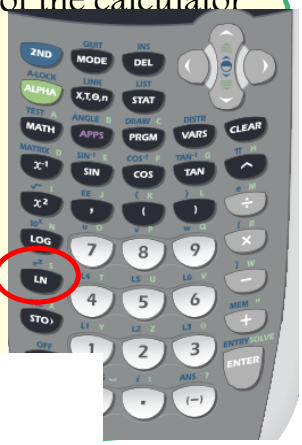
Warm Up:

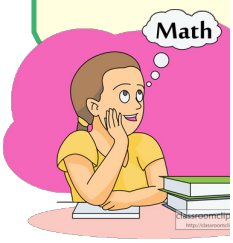
HINT: ln is on the bottom left side of the calculator

If $p(x) = 2\ln(x) - 1$ and $m(x) = \ln(x + 6)$, then what is the solution for $p(x) = m(x)$?

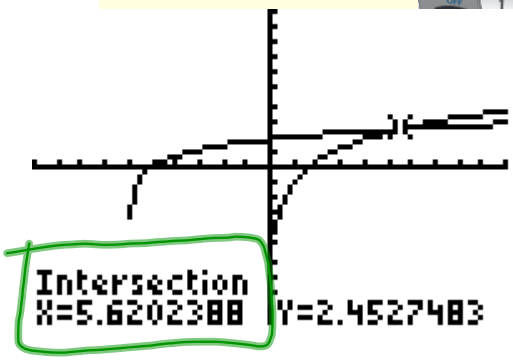
(1) 1.65
(2) 3.14
(3) 5.62
(4) no solution

Y_1 Y_2 intersection (x-value ONLY)





Plot1 Plot2 Plot3
\Y1■2ln(X)−1
\Y2■ln(X+6)
\Y3=
\Y4=
\Y5=
\Y6=
\Y7=

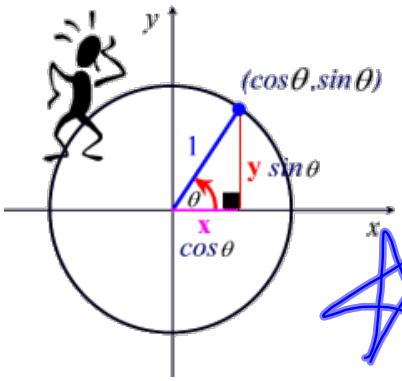


Intersection
X=5.6202388 Y=2.4527483

Pythagorean Identities

Proving (Show L=R)

1)



$a^2+b^2=c^2$

$x^2+y^2=1^2$

$\cos^2\theta+\sin^2\theta=1$

$\cos^2\theta=1-\sin^2\theta$

$\sin^2\theta=1-\cos^2\theta$

Examples:

1) Write each of the following in terms of **one trig function**.

a) (1+cos x)(1-cos x)

b) $\frac{1-\cos^2 x}{\sin^2 x}$

c) $\frac{\sin^2 A}{\tan A}$

d) $\frac{\sin x \bullet \cos x}{\tan x}$

$1-\cos x+\cos x-\cos^2 x$

$1-\cos^2 x$

$\sin^2 x$

$\frac{\sin^2 x}{\sin^2 x}$

1

$\sin^2 A \div \tan A$

$\sin^2 A \div \frac{\sin A}{\cos A}$

$\sin^2 A \cdot \frac{\cos A}{\sin A}$

$\sin A \cos A$

$\sin x \cos x \div \tan$

$\sin x \cos x \div \frac{\sin}{\cos}$

$\sin x \cos x \cdot \frac{\cos}{\sin}$

$\cos^2 x$

2) If ***sinA=k***, then find the value of the expression

(sin A)(cos A)(tan A)

$\frac{\sin A}{1} \cdot \frac{\cos A}{1} \cdot \frac{\sin A}{\cos A} = \sin^2 A$

k^2

3) The expression $\sin^2 x + \cos^2 x - b^2$ is equivalent to:

a) 1 b) b^2 c) (1 + b)(1 - b) d) sinxcosx - b

$1-b^2$

Homework: p. 485 #7-11

Developing Skills

In 3–14, write each expression as a single term using $\sin\theta$, $\cos\theta$, or both.

7. $\cot\theta \sec\theta$

8. $\tan^2\theta + 1$

9. $\cot^2\theta + 1$

10. $\tan\theta \sec\theta \cot\theta$

11. $\frac{1}{\sec\theta \csc\theta}$