

Ch. 11 - Board Problems

1. Find θ for $\sin \theta = -\frac{\sqrt{3}}{2}$ for all angles $0^\circ \leq \theta \leq 360^\circ$

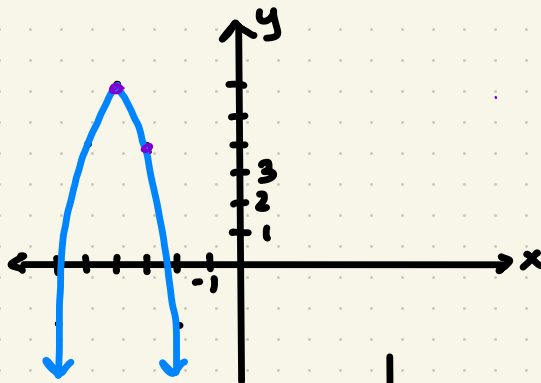
Find $\cos \theta$, $\tan \theta$ for all angles.

DRAW TRIANGLES.

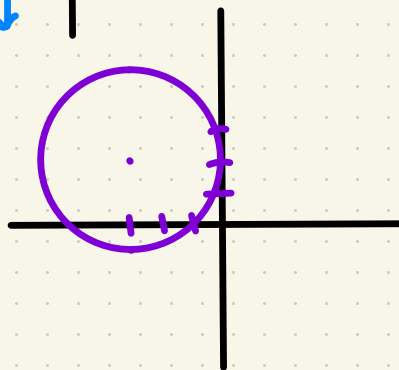
PROVE.

2.
$$\frac{\tan \theta}{\cot \theta - \csc \theta} = \frac{-1 - \cos \theta}{\cos \theta}$$

3. PUT GRAPH INTO VERTEX FORM AND STANDARD FORM



4. WRITE EQUATION OF CIRCLE IN GRAPHING AND STANDARD FORM.



Ch. 11 - SUM & DIFFERENCE IDENTITIES

1 $\cos(A-B) = \cos A \cos B + \sin A \sin B$

$A = 60^\circ$

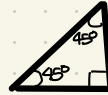
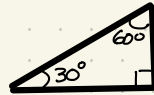
$B = 30^\circ$

$\cos(60^\circ - 30^\circ) =$

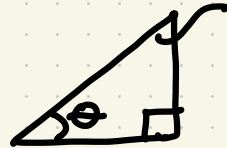
$\cos 30^\circ =$

$\cos 15^\circ$

$\cos(__ - __) =$



2 $\cos(A+B) = \cos(A - (-B)) =$



REMEMBER:

$\sin \theta = \cos(90^\circ - \theta)$

$\cos \theta = \sin(90^\circ - \theta)$

$90^\circ - A - B$

THEREFORE,

$\sin(A+B) = \cos[90^\circ - (A+B)]$

$= \cos[(90^\circ - A) - B]$

$= \cos(90^\circ - A) \cdot \cos(B) + \sin(90^\circ - A) \cdot \sin B$

$\sin(A+B) = \sin A \cdot \cos B + \cos A \cdot \sin B$

$\sin(A-B) = \sin A \cos B - \cos A \sin B$

$\sin 83^\circ = \sin 90^\circ - \sin 7^\circ$
 $=$

$$\tan(A+B) = \frac{\tan A + \tan B}{1 - \tan A \cdot \tan B}$$

$$\tan(A-B) = \frac{\tan A - \tan B}{1 + \tan A \cdot \tan B}$$

$$\tan 75 =$$

PRACTICE PROBLEMS

CALCULATE IN EXACT FORM.

$$\cos A \cdot \cos B - \sin A \sin B = \cos(A+B)$$

$$1) \cos 75^\circ$$

$$3) \sin 90^\circ$$

$$5) \tan 15^\circ$$

CALCULATE WITH CALCULATOR

$$2) \cos 18^\circ = \cos(50^\circ - 32^\circ)$$

sin 32

$$4) \sin 83^\circ = \sin(90^\circ - 7^\circ)$$

$$6) \tan 23^\circ = \tan(62^\circ - 39^\circ)$$

Function Operations

Date_____ Period____

Perform the indicated operation.

1) $g(n) = n^2 + 4 + 2n$
 $h(n) = -3n + 2$
Find $(g \cdot h)(1)$

2) $f(x) = 4x - 3$
 $g(x) = x^3 + 2x$
Find $(f - g)(4)$

3) $h(x) = 3x + 3$
 $g(x) = -4x + 1$
Find $(h + g)(10)$

4) $g(a) = 3a + 2$
 $f(a) = 2a - 4$
Find $\left(\frac{g}{f}\right)(3)$

5) $g(x) = 2x - 5$
 $h(x) = 4x + 5$
Find $g(3) - h(3)$

6) $g(a) = 2a - 1$
 $h(a) = 3a - 3$
Find $(g \cdot h)(-4)$

7) $g(t) = t^2 + 3$
 $h(t) = 4t - 3$
Find $(g \cdot h)(-1)$

8) $g(n) = 3n + 2$
 $f(n) = 2n^2 + 5$
Find $g(f(2))$

9) $g(x) = -x^2 - 1 - 2x$
 $f(x) = x + 5$
Find $(g - f)(x)$

10) $f(x) = 3x - 1$
 $g(x) = x^2 - x$
Find $\left(\frac{f}{g}\right)(x)$

11) $g(a) = -3a - 3$
 $f(a) = a^2 + 5$
Find $(g - f)(a)$

12) $h(t) = 2t + 1$
 $g(t) = 2t + 2$
Find $(h - g)(t)$

13) $f(x) = 2x^3 - 5x^2$
 $g(x) = 2x - 1$
 Find $(f \cdot g)(x)$

14) $h(n) = 4n + 5$
 $g(n) = 3n + 4$
 Find $(h - g)(n)$

15) $g(a) = -3a^2 - a$
 $h(a) = -2a - 4$
 Find $\left(\frac{g}{h}\right)(a)$

16) $f(n) = 2n$
 $g(n) = -n - 4$
 Find $(f \circ g)(n)$

17) $h(a) = 3a$
 $g(a) = -a^3 - 3$
 Find $\left(\frac{h}{g}\right)(a)$

18) $g(n) = 2n + 3$
 $h(n) = n - 1$
 Find $(g \circ h)(n)$

19) $h(x) = x^2 - 2$
 $g(x) = 4x + 1$
 Find $(h \circ g)(x)$

20) $g(t) = 2t + 5$
 $f(t) = -t^2 + 5$
 Find $(g + f)(t)$

21) $g(x) = 2x - 2$
 $f(x) = x^2 + 3x$
 Find $(g \circ f)(-2 + x)$

22) $g(a) = 2a + 2$
 $h(a) = -2a - 5$
 Find $(g \circ h)(-4 + a)$