Pre-Calculus
Final Assignment

Student Name: _____

Due date: (No later than) April 27th, 2022

(1) Suppose θ is an angle in standard position whose terminal side is in QIII and $\sec\theta = -15/8$. Find $\sin\theta$

a. 0.85 c. 0.75

b. −0.85 d. −0.75

(2) Given a triangle with $b = 7$ in, $c = 9$ in, $A = 40°$ what is the length of a?

a. 6.2 in c. 5.8 in

b. −6.4 in d. 0.54 in

(3) Solve, in the interval $[0°, 360°)$

$$\sin 2x - \cos x = 0$$

a. $x = (20°, 40°, 50°, 80°)$

b. $x = (30°, 90°, 150°, 270°)$

c. $x = (45°, 60°, 120°, 180°)$

d. $x = (0°, 120°, 180°, 360°)$

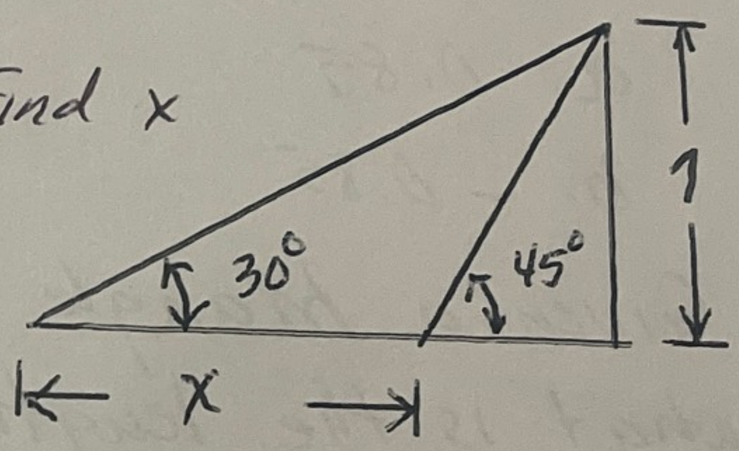
(4) If $\cos\theta = 4/5$ and $\csc\theta < 0$, find $\tan\theta$.

a. -1
b. -3
c. $-3/4$
d. $3/4$

(5) Simplify $\dfrac{1}{1-\cos x} + \dfrac{1}{1+\cos x}$

a. $2\csc^2 x$
b. $\csc^2 x$
c. $\sec^2 x$
d. $\sin x$

(6) Given the triangle. Find x



a. -2.52
b. -1.88
c. 0.73
d. None of the above

(7) Evaluate $\sin\left[\tan^{-1}(3/4) - \sin^{-1}(3/5)\right]$

a. $40°$
b. 2
c. -1
d. 0

(8) Express $\dfrac{1-i}{1+i}$ in polar form

a. $2\angle 0°$
b. $1\angle 0°$
c. $1\angle 180°$
d. $1\angle 270°$

(9) Express in rectangular form $(1+i)^4$

a. 5

b. -4

c. -2

d. $4+5i$

(10) Solve the equation $Z^2+1=0$

a. $z_1 = 1\angle 0°$, $z_2 = 1\angle 360°$

b. $z_1 = 1\angle 45°$, $z_2 = 2\angle 60°$

c. $z_1 = 1\angle 90°$, $z_2 = 1\angle 270°$

d. $z_1 = 2\angle 40°$, $z_2 = 1\angle 180°$