Calculus AB CH. P WS #2 Name:_____ Per.____

Solve the inequalities

1) $\dfrac{(x-10)}{(x+1)^2(x-4)} \le 0$

2) $x(x+6)(x-9) > 0$

3) $|5x-2| \le 7$

4) $|2x+3| < -3$

5) Write the equation of each line :

a) $m = \dfrac{-7}{3}$; $(-2,7)$

b) $m = und.$; $(-20,-40)$

c) $m = 0$; $(42,65)$

Find the domain for each

6) $f(x) = \dfrac{x}{x^2 - 13x + 42}$

7) $f(x) = \dfrac{\sqrt{x+4}}{x-22}$

8) $f(x) = \sqrt{97-x}$

9) $f(x) = \ln\left(x^2+9\right)$

Solve for x from $[0, 2\pi]$

10*a*) $\cos x = \frac{\sqrt{2}}{2}$ *b*) $\sin x = \frac{-\sqrt{3}}{2}$ *c*) $\tan x = -\sqrt{3}$

11) If $\cos x = \frac{5}{6}$ and $\csc x = -\frac{6}{\sqrt{11}}$
find remaining four trig. functions

$\sin x =$ $\sec x =$

$\cot x =$ $\tan x =$

12) If $\tan x = \frac{-24}{7}$ in Q2. Find
five remaining trig. functions

$\sin x =$ $\cos x =$

$\csc x =$ $\sec x =$ $\cot x =$

BONUS #13-17 (Points added for each correct answer)

Solve each

13) $\cos^2 x + \cos x = 0$ from **[0, 2π).**

14) $2\sin^2 x - 1 = 0$ from **[0, 360°)**

Solve the inequalities $[0, 360°)$

15) $\cos x < \frac{-\sqrt{2}}{2}$

16) $\sin x > 1$

17) $|\sin x| \leq \frac{1}{2}$