QUIZ – Finding Trigonometric Values and Solving Basic Trigonometric Equations

(1) Find the following Trig Values, exactly (you really need to work on getting quick at these)

$\sin(7\pi/6) =$ $-1/2$ $\quad\quad$ $\cos(5\pi/3) =$ $1/2$

$\tan(7\pi/4) =$ -1 $\quad\quad$ $\tan(11\pi/6) =$ $-\sqrt{3}/3$

$\cos(\pi) =$ -1 $\quad\quad$ $\sin(-2\pi/3) =$ $-\sqrt{3}/2$

(2) Solve the following equations for the given restriction on t. (If no restriction is given, find all solutions)

(a) Solve: $\cos(t) = \dfrac{-\sqrt{2}}{2}$ $\quad$ $t = \frac{3\pi}{4} + 2\pi k, \frac{5\pi}{4} + 2\pi k$ k integer

(b) Solve: $\sin(t) = \dfrac{1}{2}$ for $0 \le t < 2\pi$ $\quad$ $t = \pi/6, 5\pi/6$

(c) Solve: $\tan(t) = \dfrac{\sqrt{3}}{3}$ for $0 \le t < 4\pi$ $\quad$ $t = \frac{\pi}{6}, \frac{13\pi}{6}, \frac{7\pi}{6}, \frac{19\pi}{6}$

(d) Solve: $\sin(t) = -1$ $\quad$ $t = \frac{3\pi}{2} + 2\pi k$ k integer

(3). Mixed Problems: Find the value or Solve the equation $0 \le t < 2\pi$

(a). $\tan(5\pi/3)$ $\quad$ $-\sqrt{3}$

(b). $\sin(t) = -\sqrt{3}/2$ $\quad$ $t = \frac{4\pi}{3}, \frac{5\pi}{3}$

(c). $\tan(\pi)$ $\quad$ $(-1,0)$ $\quad$ $\frac{0}{1}$ $\quad$ 0

(d). $\cos(t) = 1$ $\quad$ $t = 0$