

**MATH 1151 QUIZ-2** (20 minutes)

1. (2 points) If  $\tan \theta = 3$ , find  $\tan(\theta + \pi)$ .

**Solution:** Since tangent function has period  $\pi$  then  $\tan(\theta + \pi) = \tan \theta = 3$ .

**Q.E.D.**

2.(3 points) By using periodicity and even-odd properties; If  $\cos(a) = \frac{1}{4}$ , then find the exact value of  $\cos(a) + \cos(a + 2\pi) + \cos(a - 2\pi)$ .

**Solution:** Cosine function has period  $2\pi$ , so  $\cos(a) = \cos(a + 2\pi) = \cos(a - 2\pi) = \frac{1}{4}$ , so answer is  $\frac{1}{4} + \frac{1}{4} + \frac{1}{4} = \frac{3}{4}$ .

**Q.E.D.**

3.(2 points) Find  $\cos 35^\circ \sin 55^\circ + \sin 35^\circ \cos 55^\circ$ .

**Solution:**  $\cos 35^\circ = \sin(90^\circ - 35^\circ) = \sin 55^\circ$ ,  $\sin 35^\circ = \cos(90^\circ - 35^\circ) = \cos 55^\circ$ . So problem turns to  $(\cos 55^\circ)^2 + (\sin 55^\circ)^2$  which is equal to 1 by Pythagorean Identity. So answer is 1.

**Q.E.D.**

4.(3 points) Use transformations to graph the function  $y = 2 \sec 3x$

**Solution:** Unfortunately for now graphing problems will not be solved here due to difficulty of drawing graphs on latex and time constraint. Thanks...