

Please show **all** your work for the short answer questions! Answers without supporting work will not be given full credit. Each multiple choice question is worth 2 points. Circle only one answer.

Name: \_\_\_\_\_

1. (4 points) Evaluate the following:

(a)  $\tan \pi$

(b)  $\sec^2 \frac{7\pi}{6}$

2. (12 points) Solve the following for  $x$

(a)  $\sin x = -\frac{1}{2}$ , for  $0 \leq x \leq 2\pi$

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(b)  $\cos^2 x - \cos x = 0$ , for  $-180^\circ \leq x < 180^\circ$

(c)  $\cot 2x = -\sqrt{3}$ , for  $0 \leq x \leq \pi$

3. (2 points) ***bonus:*** Solve the general solution for  $\cot x \tan x = \sin x$