

YOUR NAME: \_\_\_\_\_

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Read each problem **very carefully** before starting to solve it. Each problem is worth 5 points. It is necessary to show **all** your work. Correct answers without explanations are worth 0 points. GOOD LUCK!!

1. Solve the trigonometric equation

$$\sin x - \cos 2x = 0, \quad 0 \leq x < 2\pi.$$

2. A truck driver receives an upsetting text message from his girlfriend and hits on the brakes at time  $t = 0$  seconds. If the truck's velocity follows the equation  $v(t) = \frac{60}{t+1}$  miles per hour, find the average acceleration of the truck between  $t = 1$  and  $t = 4$  seconds after the brakes are applied. Please, mention the correct units.

(**Reminder:** Acceleration is the rate of change of velocity with respect to time.)