

Show your work: **4 points for the details** in each question and 1 point for the final answer

ESSAY. Write your answer in the space provided or on a separate sheet of paper.

Solve the problem.

- 1) At time  $t \geq 0$ , the velocity of a body moving along the  $s$ -axis is  $v = t^2 - 7t + 6$ . When is the body moving backward?

Solve the problem. Round your answer, if appropriate.

- 2) The volume of a sphere is increasing at a rate of  $9 \text{ cm}^3/\text{sec}$ . Find the rate of change of its surface area when its volume is  $\frac{256\pi}{3} \text{ cm}^3$ . (Do not round your answer.)

Answer Key

Testname: QUIZ4\_B\_CAL1\_171

1)  $1 < t < 6$

2)  $\frac{9}{2} \text{ cm}^2/\text{sec}$