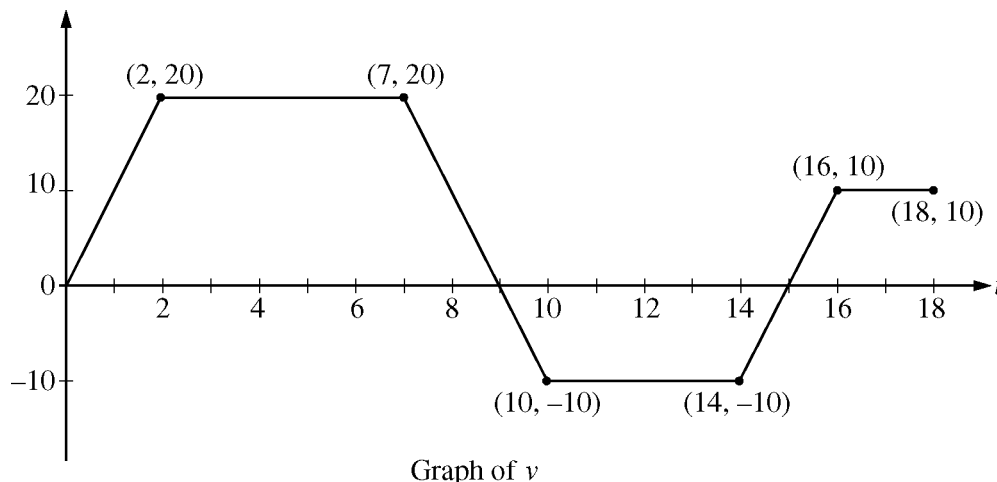


CALCULUS AB
SECTION II, Part B

Time—45 minutes

Number of problems—3

No calculator is allowed for these problems.



4. A squirrel starts at building A at time $t = 0$ and travels along a straight, horizontal wire connected to building B . For $0 \leq t \leq 18$, the squirrel's velocity is modeled by the piecewise-linear function defined by the graph above.
- At what times in the interval $0 < t < 18$, if any, does the squirrel change direction? Give a reason for your answer.
 - At what time in the interval $0 \leq t \leq 18$ is the squirrel farthest from building A ? How far from building A is the squirrel at that time?
 - Find the total distance the squirrel travels during the time interval $0 \leq t \leq 18$.
 - Write expressions for the squirrel's acceleration $a(t)$, velocity $v(t)$, and distance $x(t)$ from building A that are valid for the time interval $7 < t < 10$.

WRITE ALL WORK IN THE EXAM BOOKLET.