CSCI321, Fall 2017, Quiz#2

1. Euler

t	x	v	a
0.0	20.0	0.0	-10.0
A	B	C	D

The table at left is the start of an Euler integration trace with $\Delta t = 0.5$. What numbers replace the letters? (You can leave your answers unsimplified.)

A:

B:

C:

D:

2. Midpoint

t	x	v	a
0.0	20.0	0.0	-10.0
0.25	20.0	-2.5	-10.0
A	B	C	D

The table at left is the start of a Midpoint integration trace, including intermediate results, with $\Delta t = 0.5$. What numbers replace the letters? (You can leave your answers unsimplified.)

A:

B:

C:

D:

3. Runge-Kutta

t	x	v	a
0.00	20.0	0.0	-10.0
0.25	20.0	-2.5	-10.0
0.25	19.4	-2.5	-9.7
0.50	18.8	-4.8	-9.4
A	B	C	D

The table at left is the start of a Runge-Kutta integration trace, including intermediate results, with $\Delta t = 0.5$. What numbers replace the letters? (You can leave your answers unsimplified.)

A:

B:

C:

D: