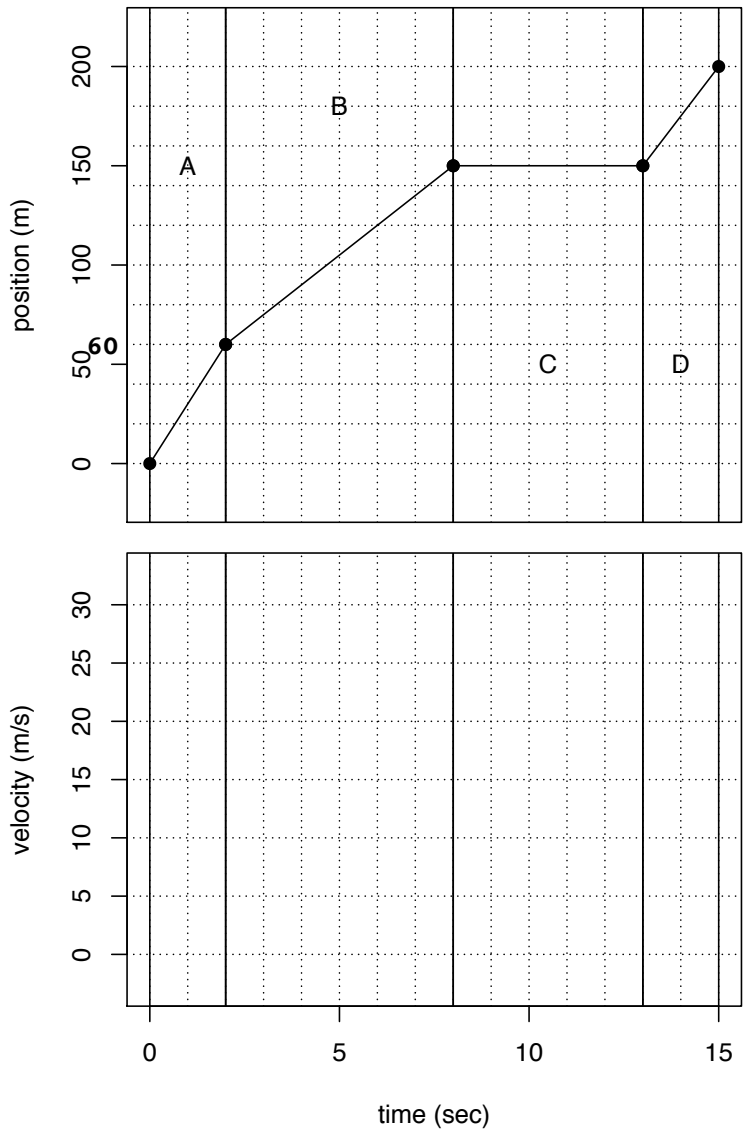
The SLOPE of a position-time graph is the velocity a that time!

Question 1

- Find the slope in each section of the position-time graph.
- Draw the corresponding velocity-time graph.



slope of section A

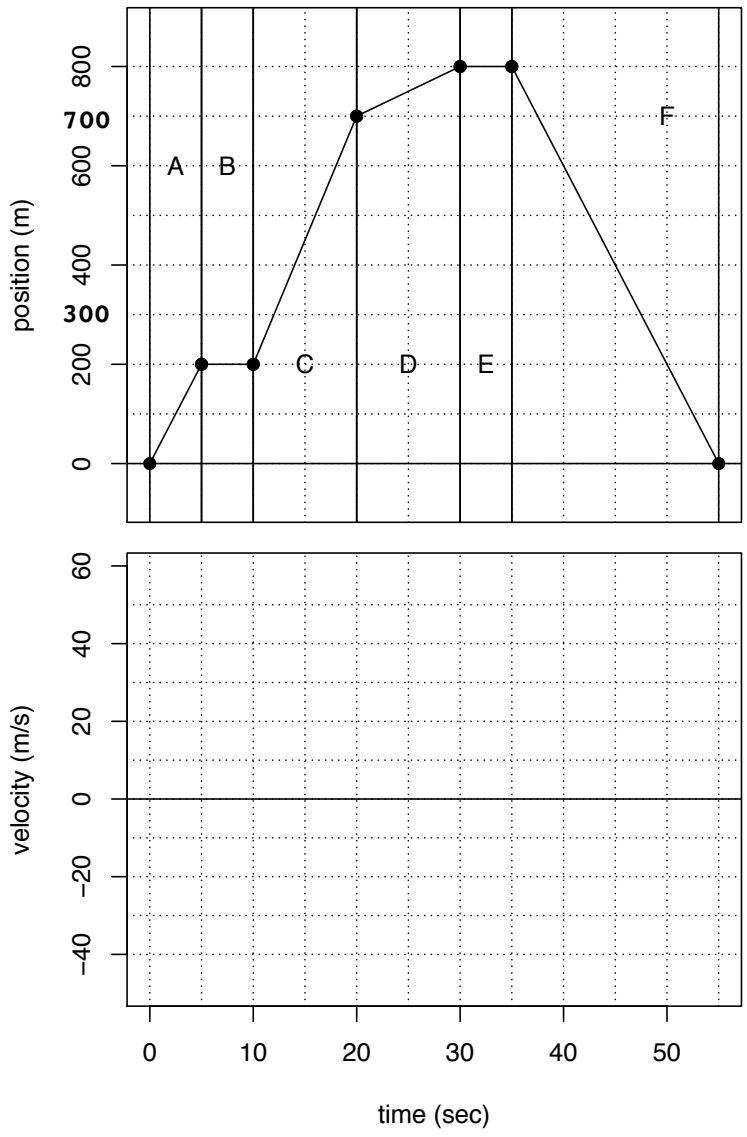
slope of section B

slope of section C

slope of section D

Question 2

- Find the slope in each section of the position-time graph.
- Draw the corresponding velocity-time graph.



slope of section A

slope of section B

slope of section C

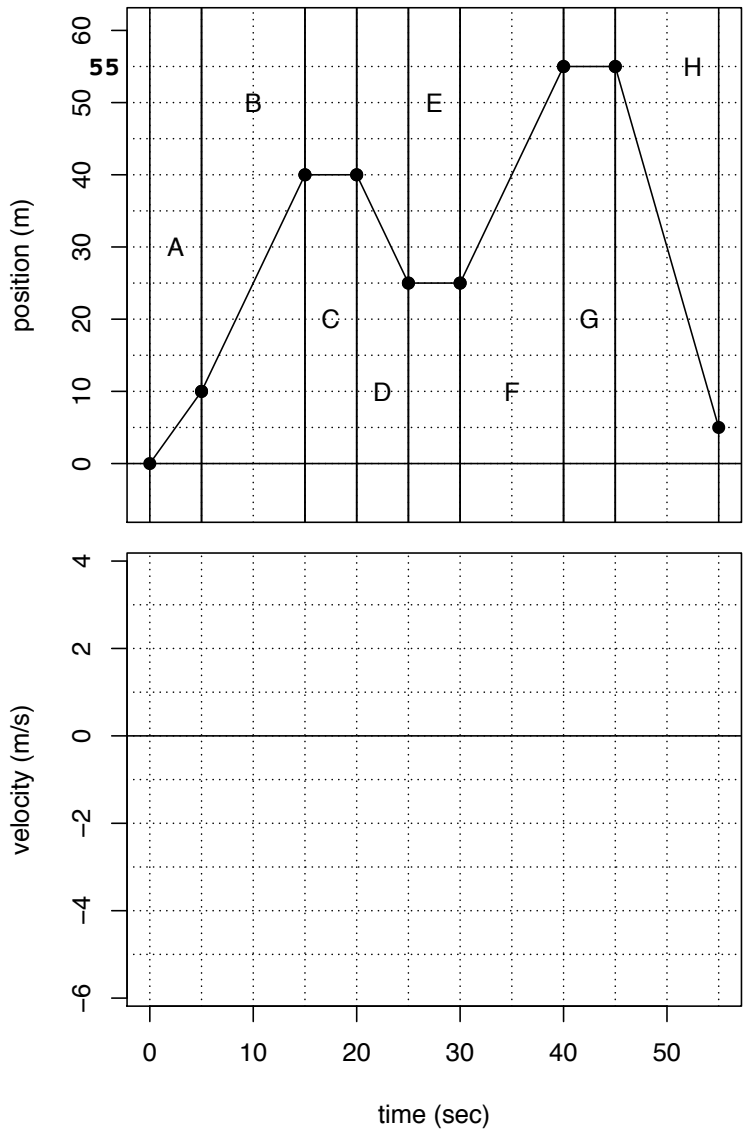
slope of section D

slope of section E

slope of section F

Question 3

- Find the slope in each section of the position-time graph.
- Draw the corresponding velocity-time graph.



slope of section A

slope of section B

slope of section C

slope of section D

slope of section E

slope of section F

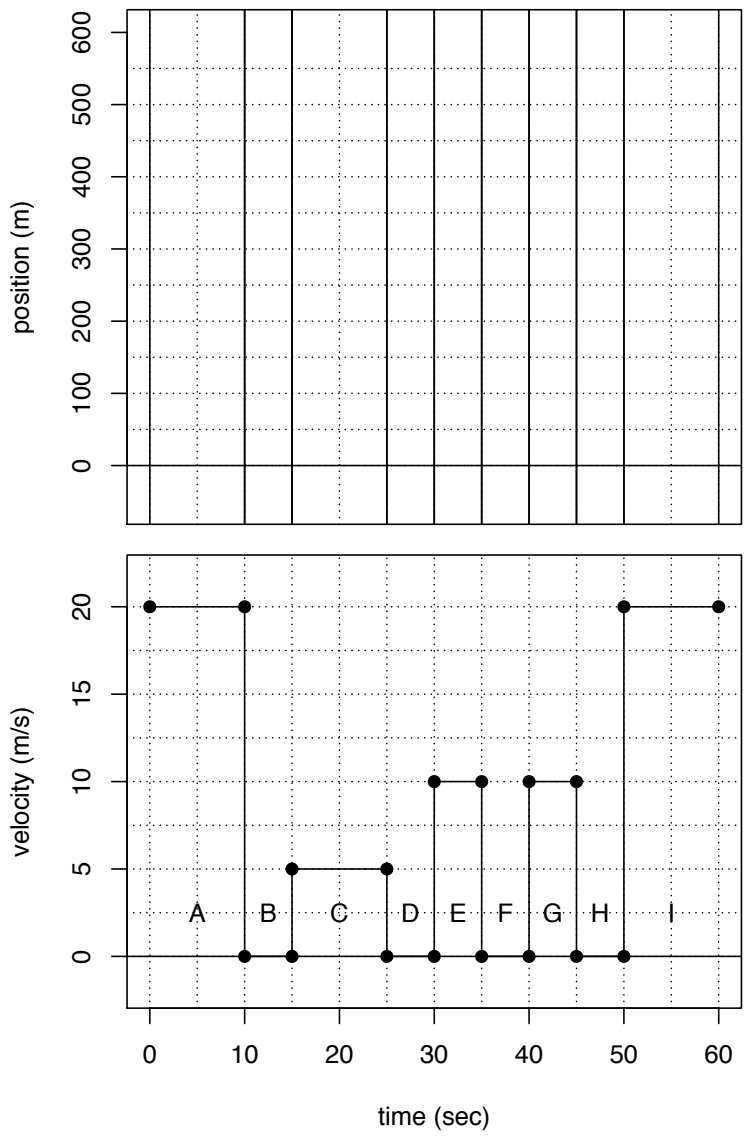
slope of section G

slope of section H

The AREA under a velocity-time graph is the change in position of that range!

Question 4

- Find the area under each section of the velocity-time graph.
- Draw the corresponding position-time graph, assuming initial position = 0.



area under section A

area under section B

area under section C

area under section D

area under section E

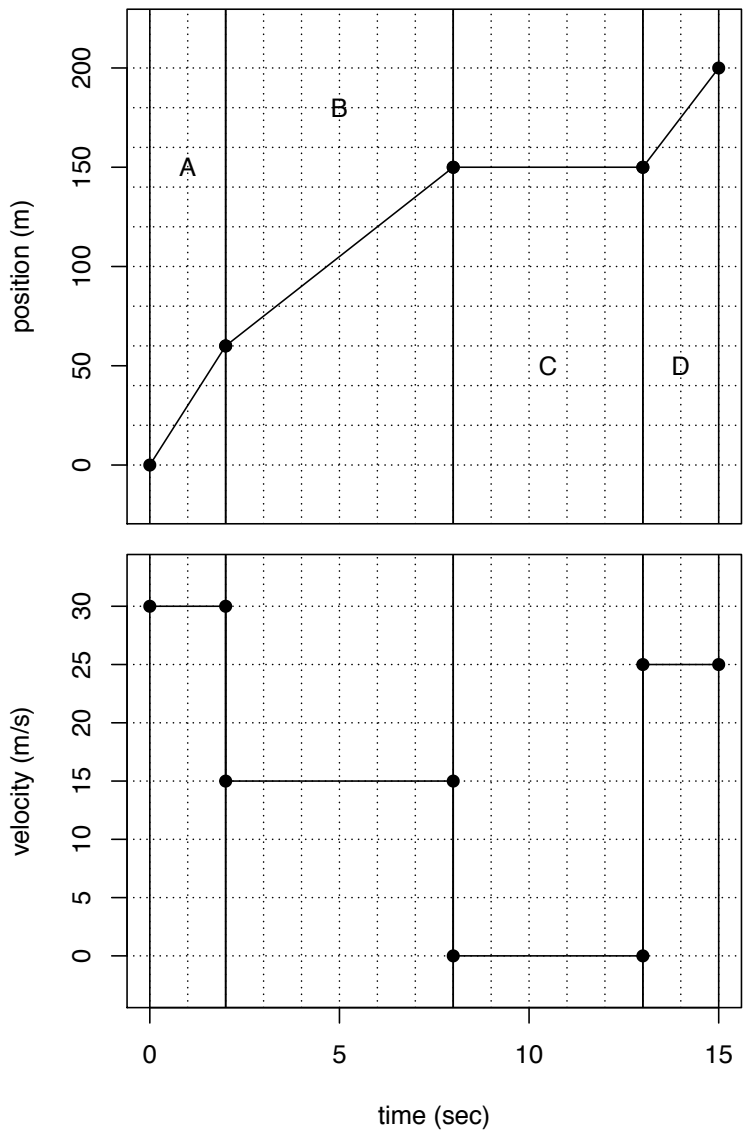
area under section F

area under section G

area under section H

area under section I

Question 1: Answer



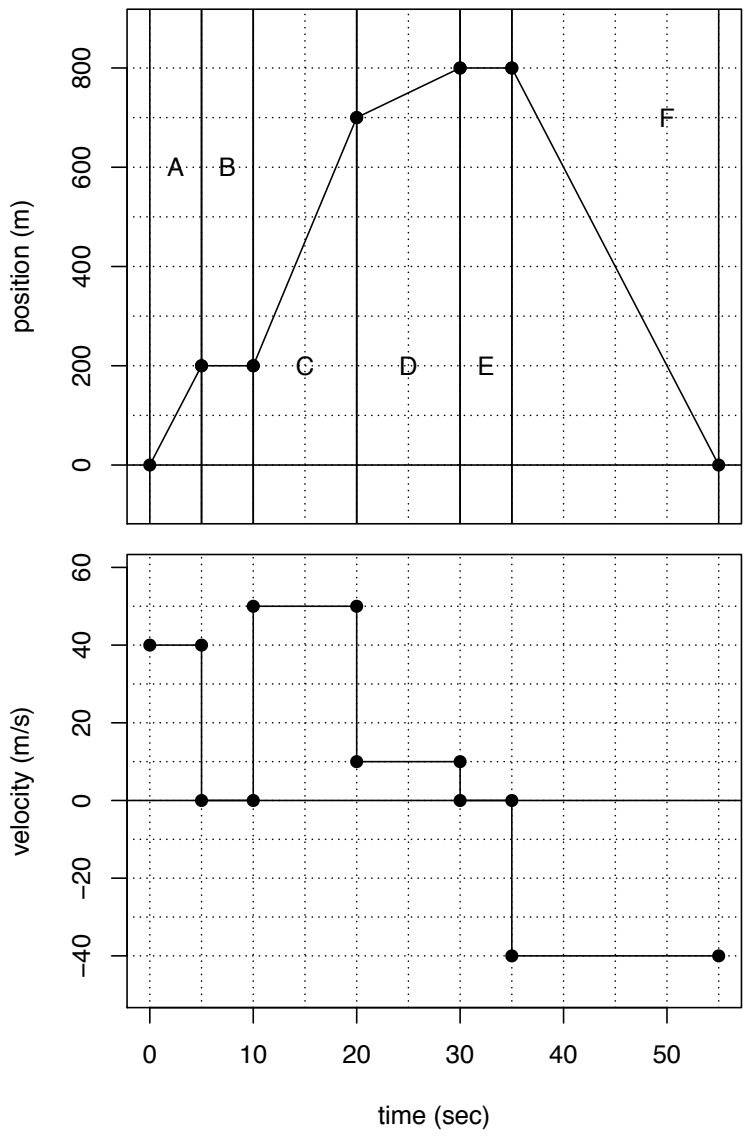
slope of section A
30 m/s

slope of section B
15 m/s

slope of section C
0

slope of section D
25 m/s

Question 2: Answer



slope of section A
40 m/s

slope of section B
0

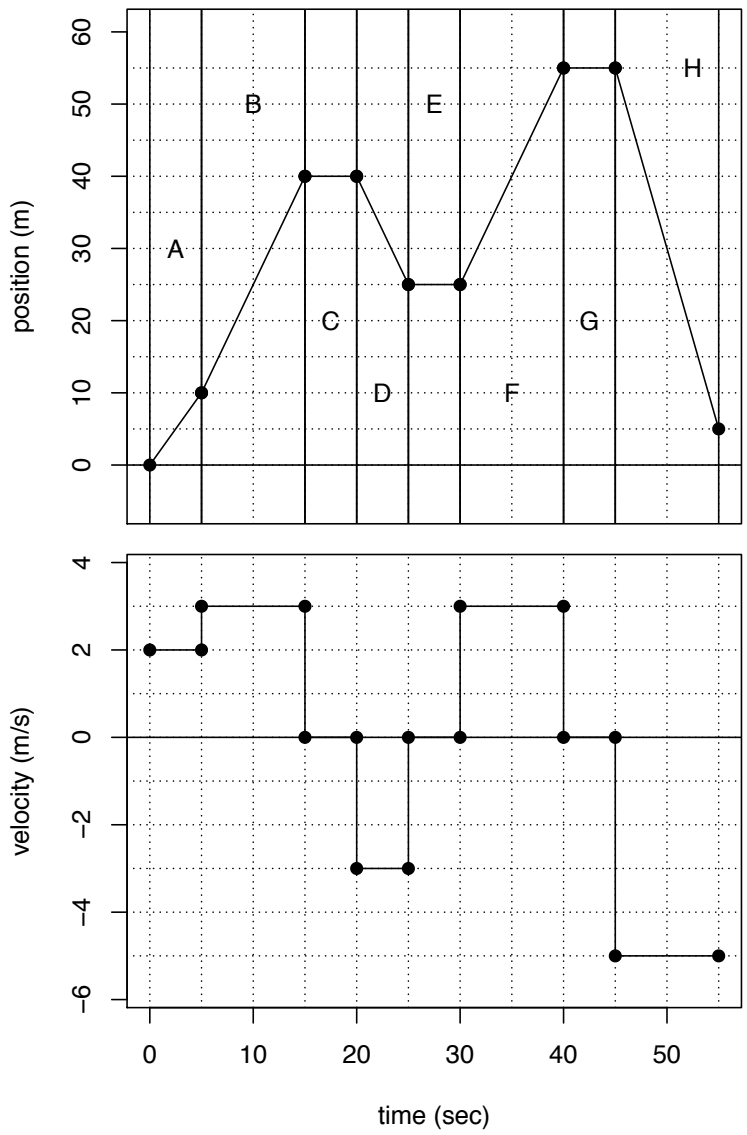
slope of section C
50 m/s

slope of section D
10 m/s

slope of section E
0

slope of section F
- 40 m/s

Question 3: Answer



slope of section A
2 m/s

slope of section B
3 m/s

slope of section C
0

slope of section D
-3 m/s

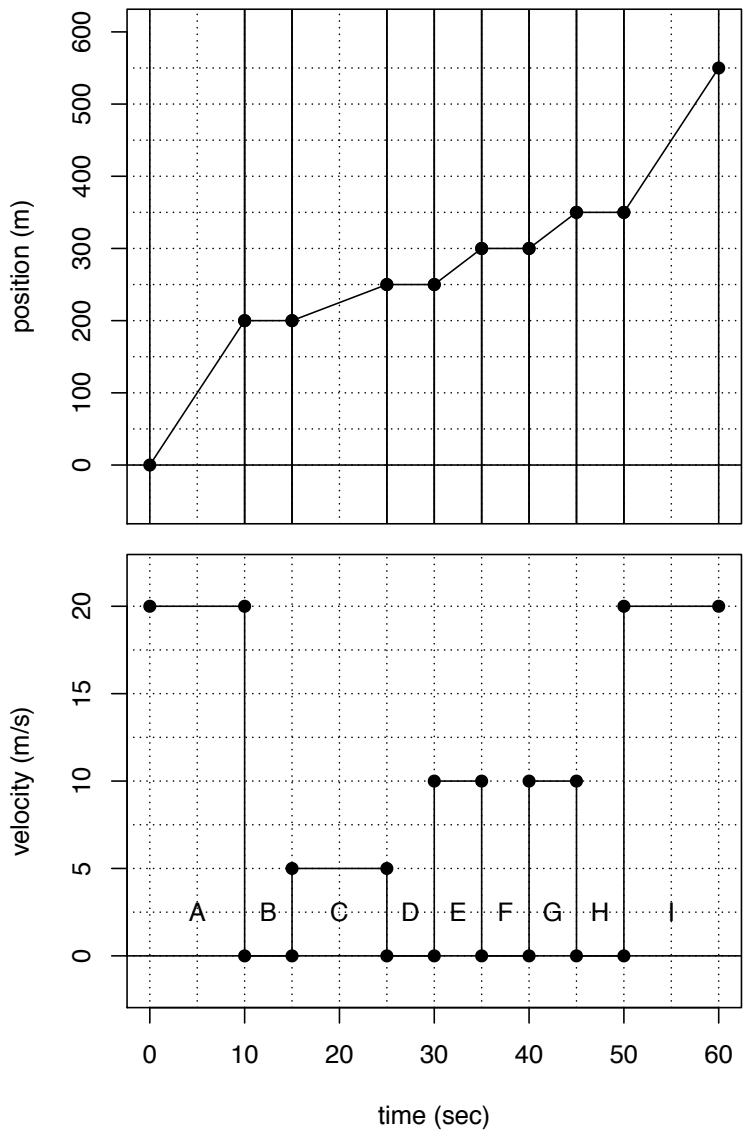
slope of section E
0

slope of section F
3 m/s

slope of section G
0

slope of section H
5 m/s

Question 4: Answer



area under section A
200 m

area under section B
0 m

area under section C
50 m

area under section D
0 m

area under section E
50 m

area under section F
0 m

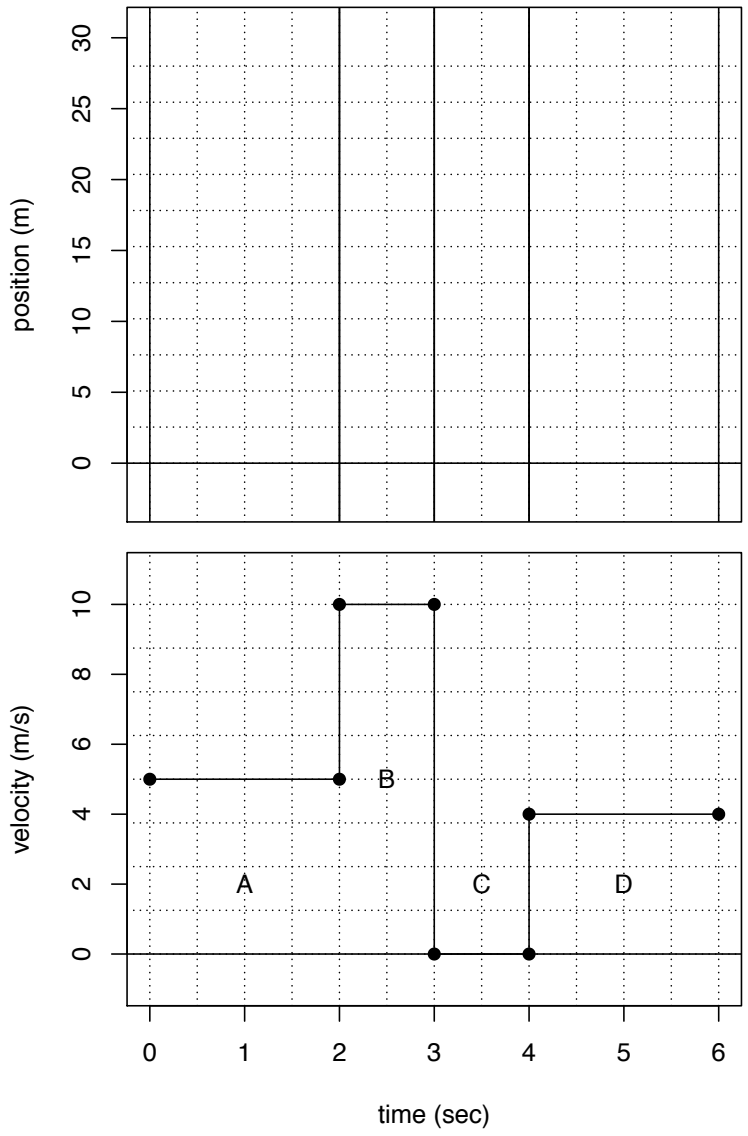
area under section G
0

area under section H
50 m

area under section I
200 m

Question 5

- Find the area under each section of the velocity-time graph.
- Draw the corresponding position-time graph, assuming initial position = 0.



area under section A

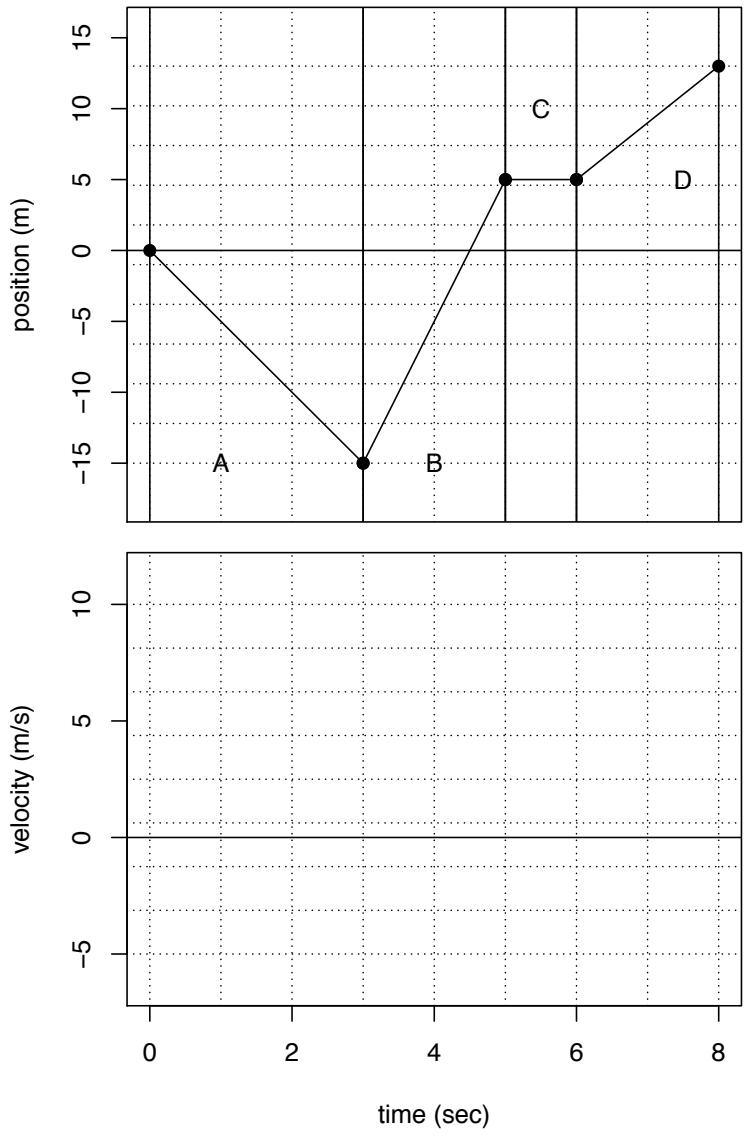
area under section B

area under section C

area under section D

Question 6

- Find the slope in each section of the position-time graph.
- Draw the corresponding velocity-time graph.



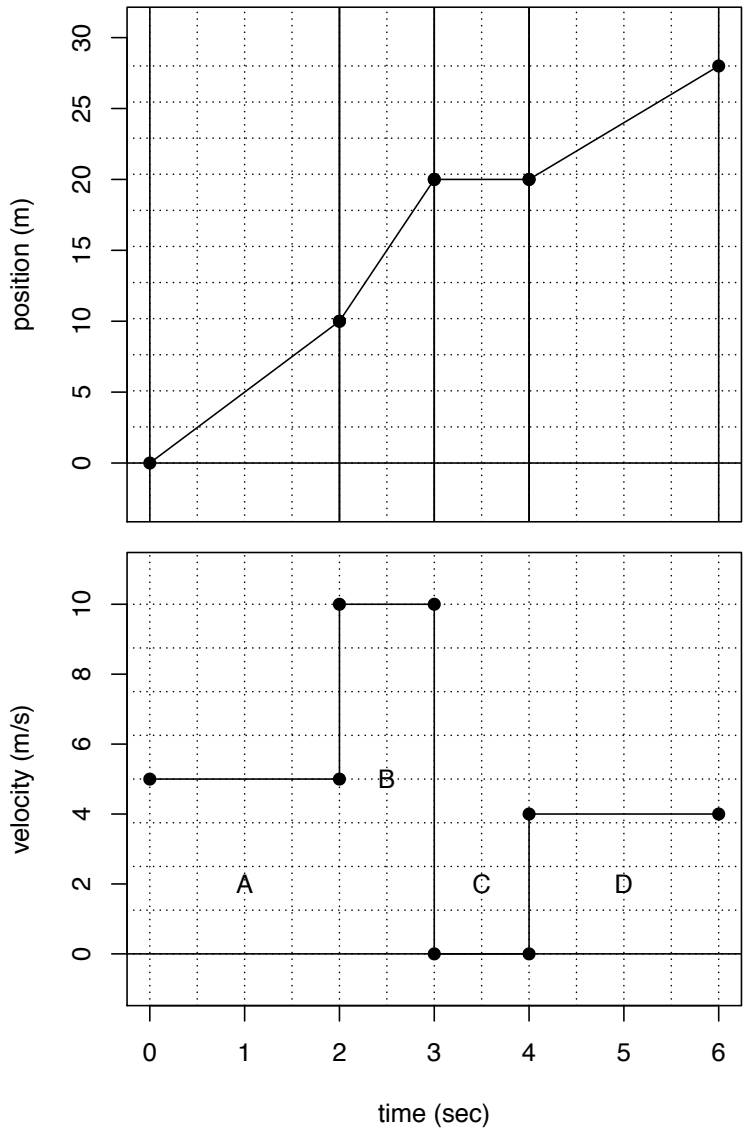
slope of section A

slope of section B

slope of section C

slope of section D

Question 5 **Answer**



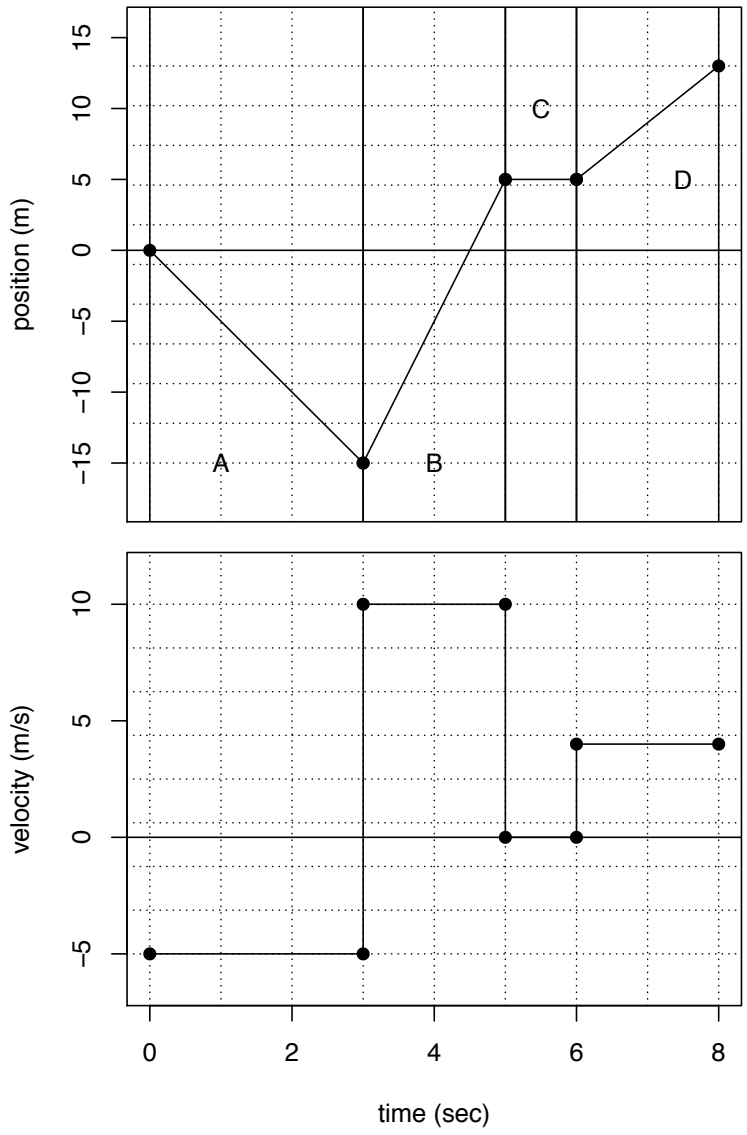
area under section A
10 m

area under section B
10 m

area under section C
0 m

area under section D
8 m

Question 6 **Answer**



slope of section A
-5 m/s

slope of section B
10 m/s

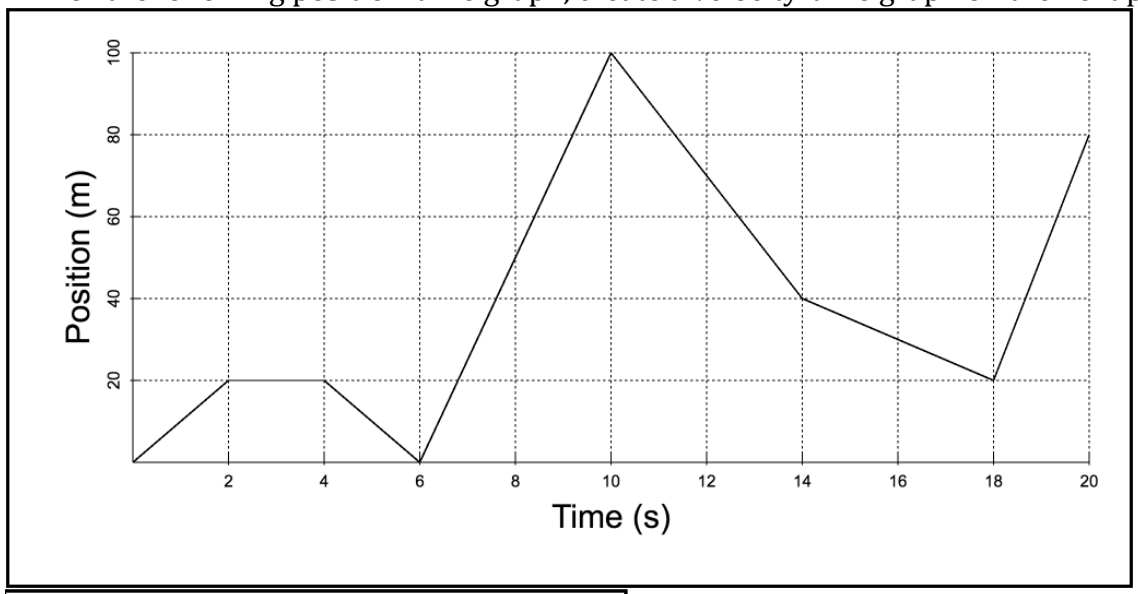
slope of section C
0 m/s

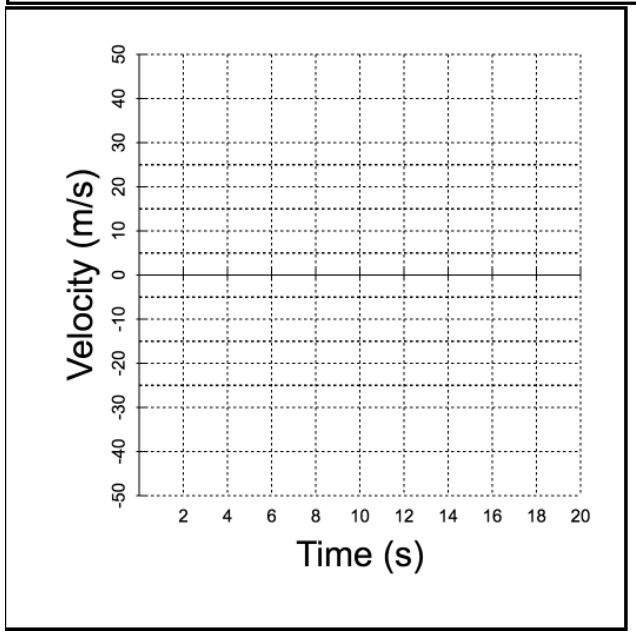
slope of section D
4 m/s

Quantitative Graphs 2 More Problems

Name _____

1. For the following position-time graph, create a velocity-time graph on the next page [4 points]

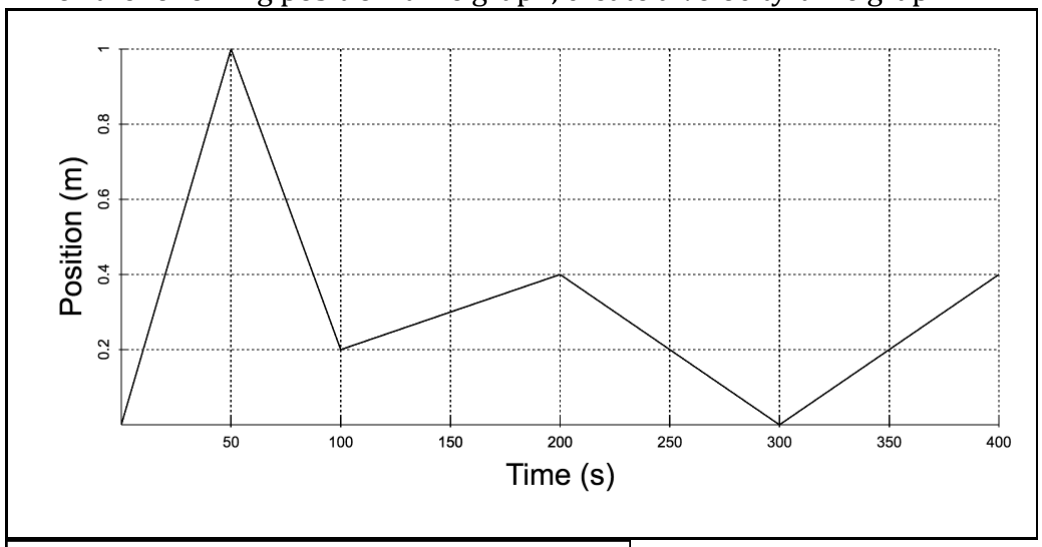


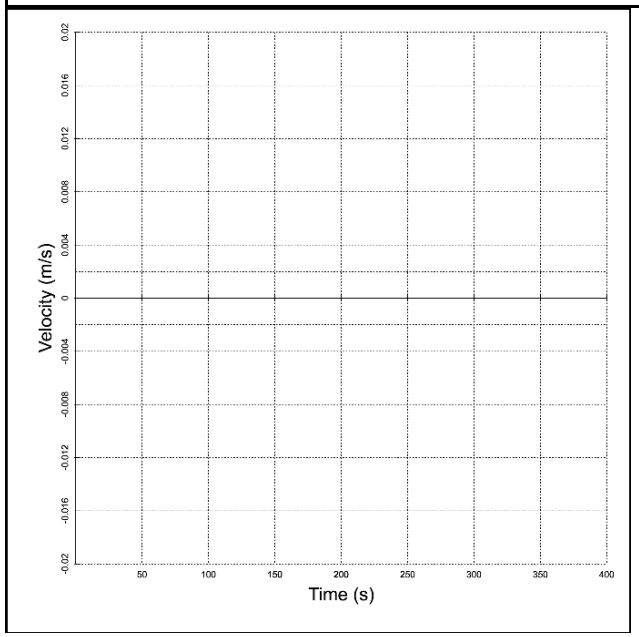


Quantitative Graphs 2 More Problems

Name _____

2. For the following position-time graph, create a velocity-time graph:





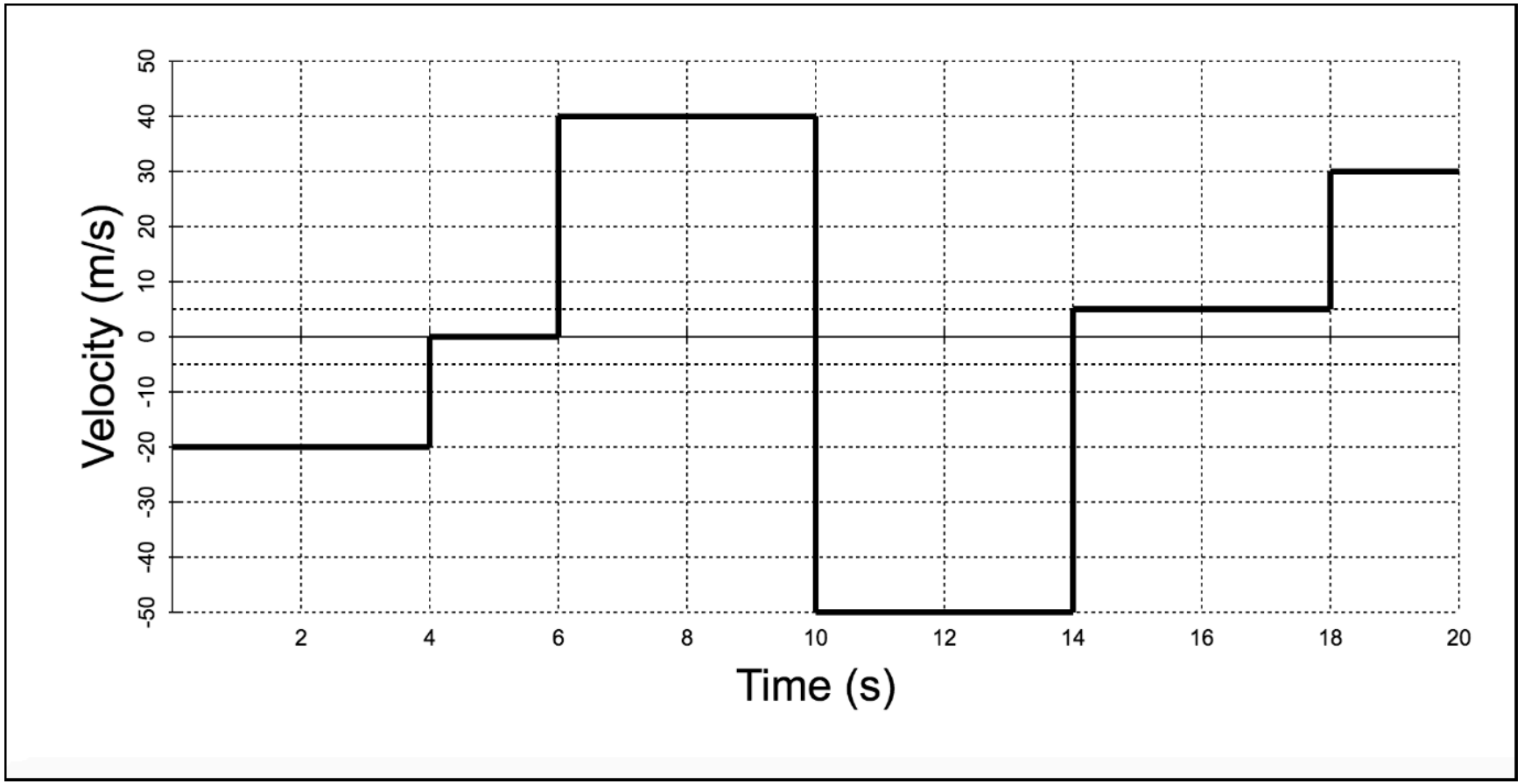
Quantitative Graphs 2 More Problems

Name _____

Name _____

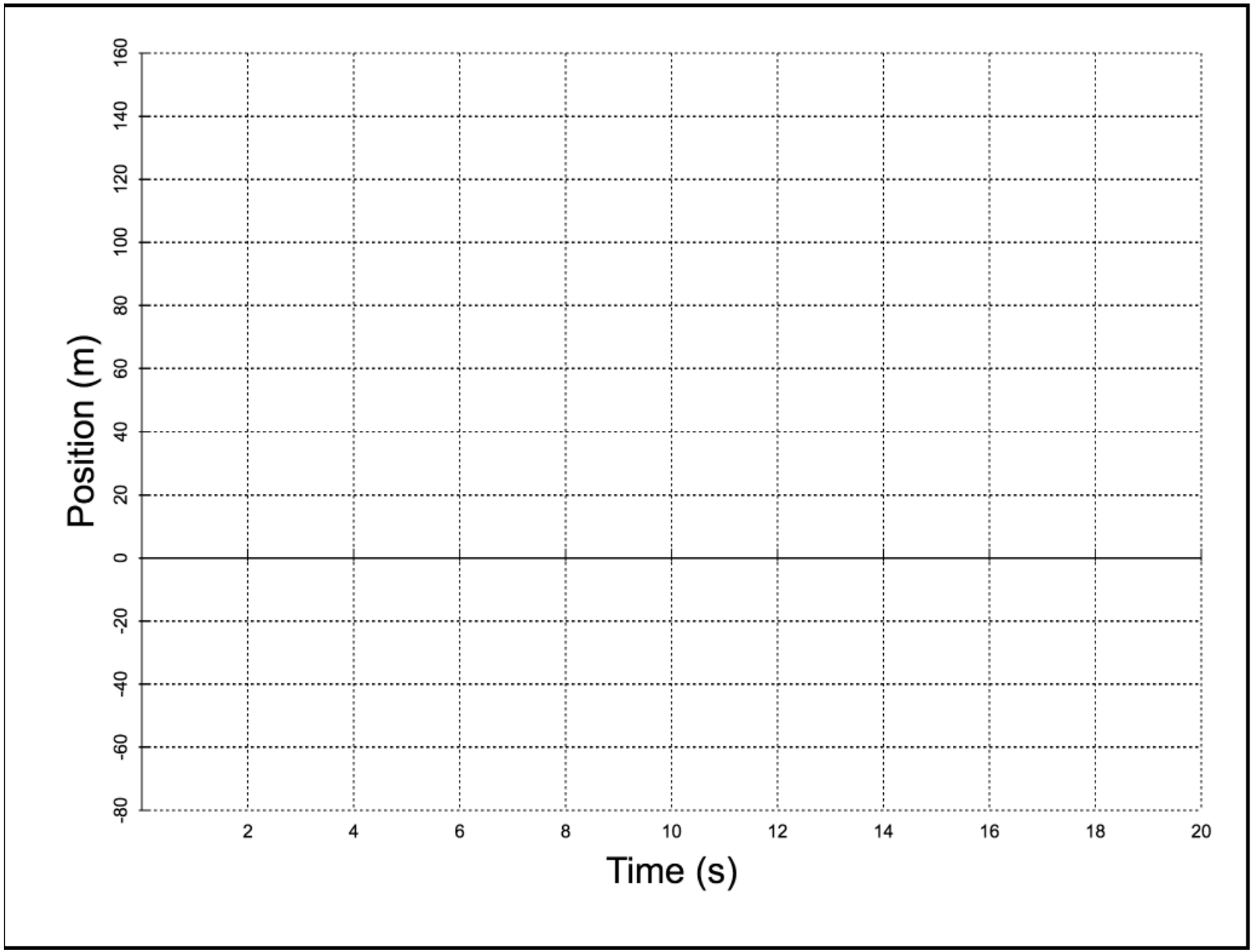
3. For the following velocity-time graph, create a position-time graph on the next page:

The *initial position* is equal to 60 meters



Quantitative Graphs 2 More Problems

Name _____



Quantitative Graphs 2 More Problems

Name _____

5. Explain, in a few sentences the method used to solve numbers problems 1 and 2. Make sure you refer to the proper *mathematical principle* that you used, and explain the actual steps you took. [2 points]

6. Explain, in a few sentences, the method used to solve problems 3 and 4. Make sure you refer to the proper *mathematical principle* that you used, and explain the actual steps you took. [2 points]

Quantitative Graphs 2 More Problems

Name _____

Answers:

1.

Time:	Value:
0 – 2	10
2 – 4	0
4 – 6	-10
6 - 10	25
10 – 14	- 15
14 – 18	-5
18 – 20	30

Name _____

3.
points on final graph:

(0, 60)
(4, -20)
(6, -20)
(10, 140)
(14, -60)
(18, -40)
(20, 20)