

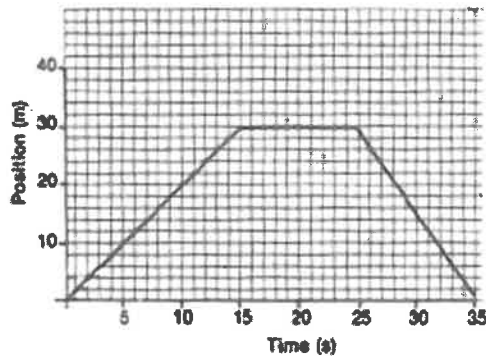
Graphical Analysis of Motion Review

Name: KEY Block:

1. Identify the following kinematics variables:

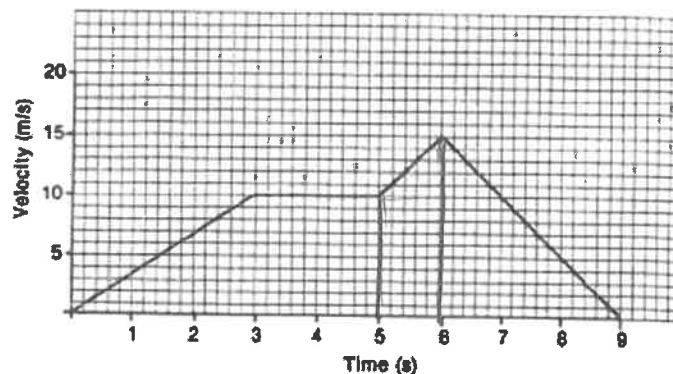
- The slope of a position-time graph: velocity
- The slope of a velocity-time graph: acceleration
- The area under a velocity-time graph: displacement

2. Use the following position-time graph to answer the subsequent questions:



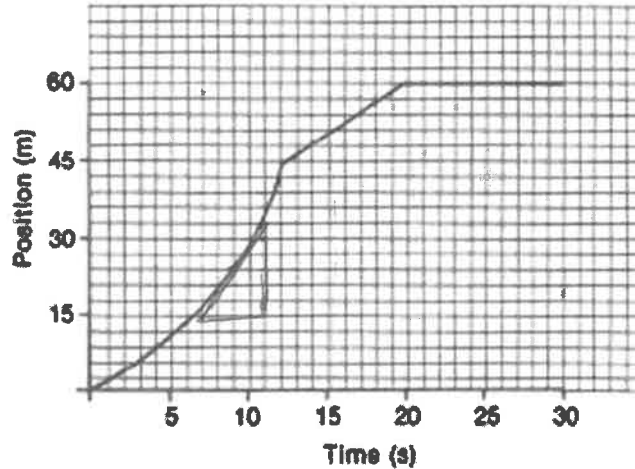
- How far does the object travel between 5 and 10 seconds? 10m
- How far does the object travel between 15 and 20 seconds? 0m
- During what time interval was the velocity zero? 15s - 25s
- What is the velocity between 10 and 15 seconds? 2m/s
- Is the object accelerating during this trip? No (instantaneous changes in velocity)

3. Use the following velocity-time graph to answer the subsequent questions:



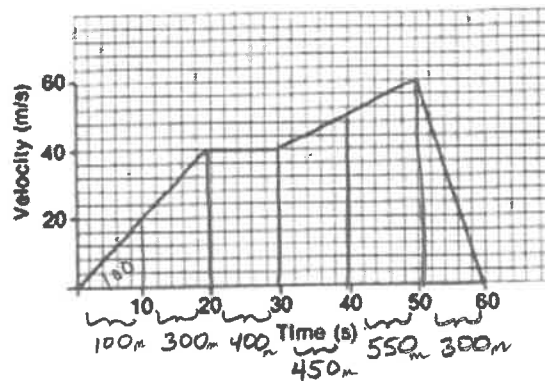
- Is the acceleration greater between 2 and 3 seconds or between 5 and 6 seconds? 5-6s
- During what time interval is the acceleration zero? 3s - 5s
- What is the displacement between 5 and 6 seconds? 12.5m
- What is the acceleration between 6 and 8 seconds? -5m/s²
- What is the displacement between 3 and 4 seconds? 10m
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4. Use the following position-time graph to answer the subsequent questions:



- What is the velocity between 20 and 25 seconds? 0 m/s
- Is the velocity greater between 0 and 5 seconds or between 10 and 12 seconds? 10-12s
- What is the velocity between 15 and 20 seconds? 1.8 m/s
- What is the velocity at 9 seconds? 4.5 m/s $\frac{32-14}{11-7} = \frac{18}{4} = 4.5$
- During what time interval(s) does the object accelerate? 0-12s
- What is the displacement between 15 and 20 seconds? 9 m

5. Sketch the position-time graph from the given velocity-time graph.



Time (s)	Position (m)
0	0
10	100
20	400
30	800
40	1250
50	1800
60	2100

