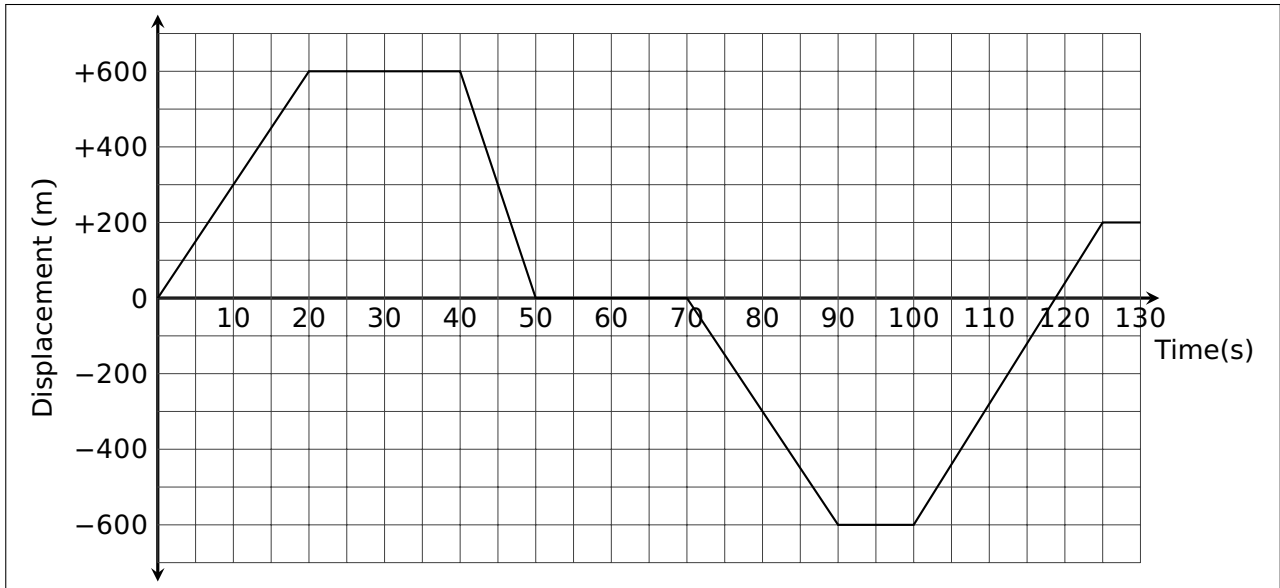
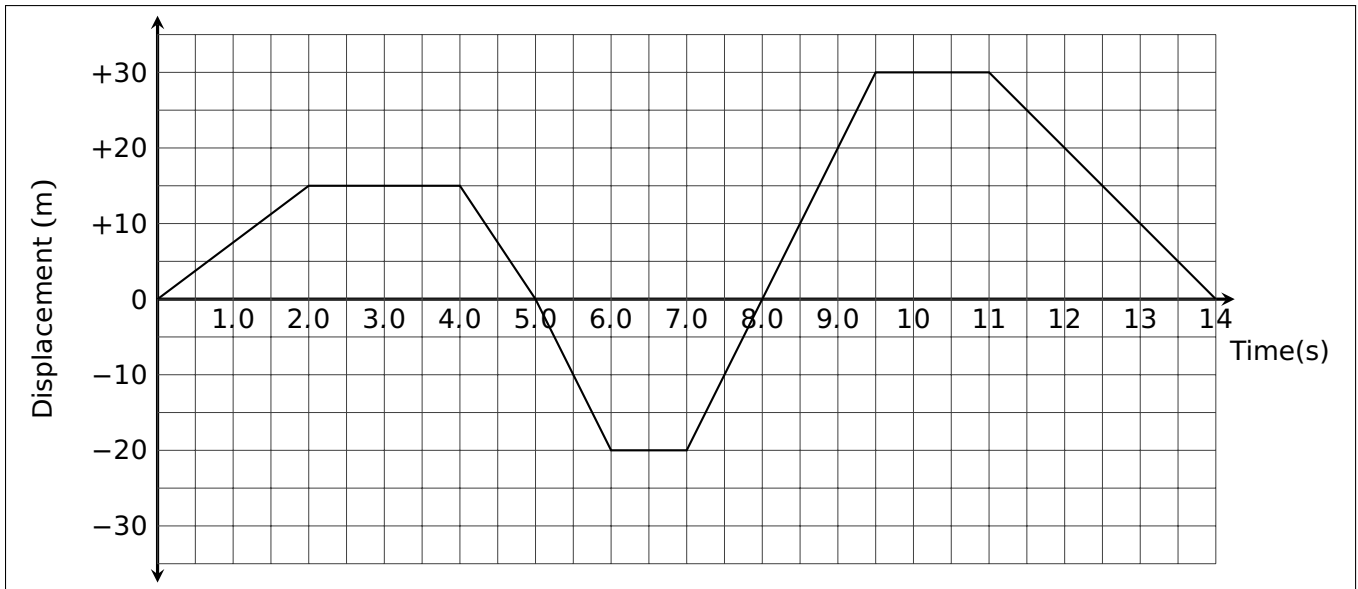


**Motion Graph #1** - The following graph indicates the motion of a car along a North-South path.



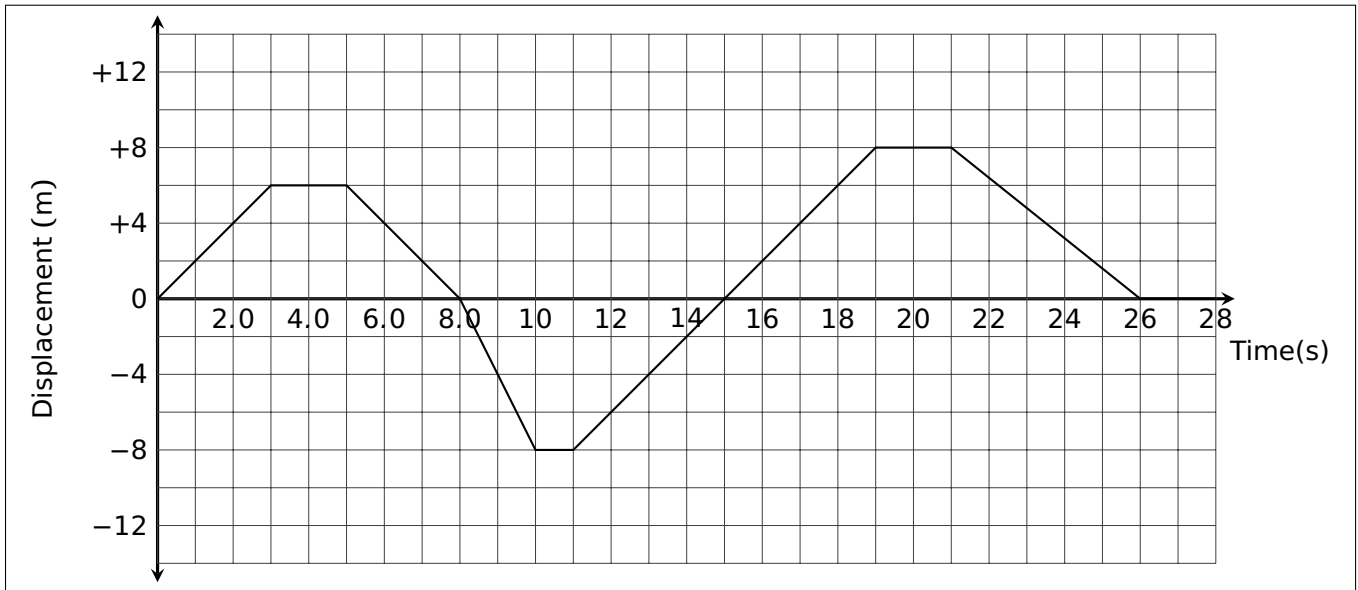
1. What was the total distance travelled to 50 s? 1. \_\_\_\_\_
2. What was the displacement of the car at 50 s? 2. \_\_\_\_\_
3. When, if at all, was the car stopped? 3. \_\_\_\_\_
4. When did the car return to the starting point? 4. \_\_\_\_\_
5. What was the car's displacement at 85 s? 5. \_\_\_\_\_
6. What was the average velocity in the first 45 s? 6. \_\_\_\_\_
7. What is the average velocity up until 25.0 s? 7. \_\_\_\_\_
8. When was the velocity constant? 8. \_\_\_\_\_
9. When did the car first start to move southward? 9. \_\_\_\_\_
10. What total distance did the car travel? 10. \_\_\_\_\_
11. What was the car's total displacement? 11. \_\_\_\_\_
12. What was the car's velocity at 85 s? 12. \_\_\_\_\_
13. What was the car's speed at 85 s? 13. \_\_\_\_\_
14. What was the average velocity of the car up to 95 s? 14. \_\_\_\_\_
15. What was the average speed of the car up to 95 s? 15. \_\_\_\_\_

**Motion Graph #2** - The following graph indicates the motion of a car along an East-West path.



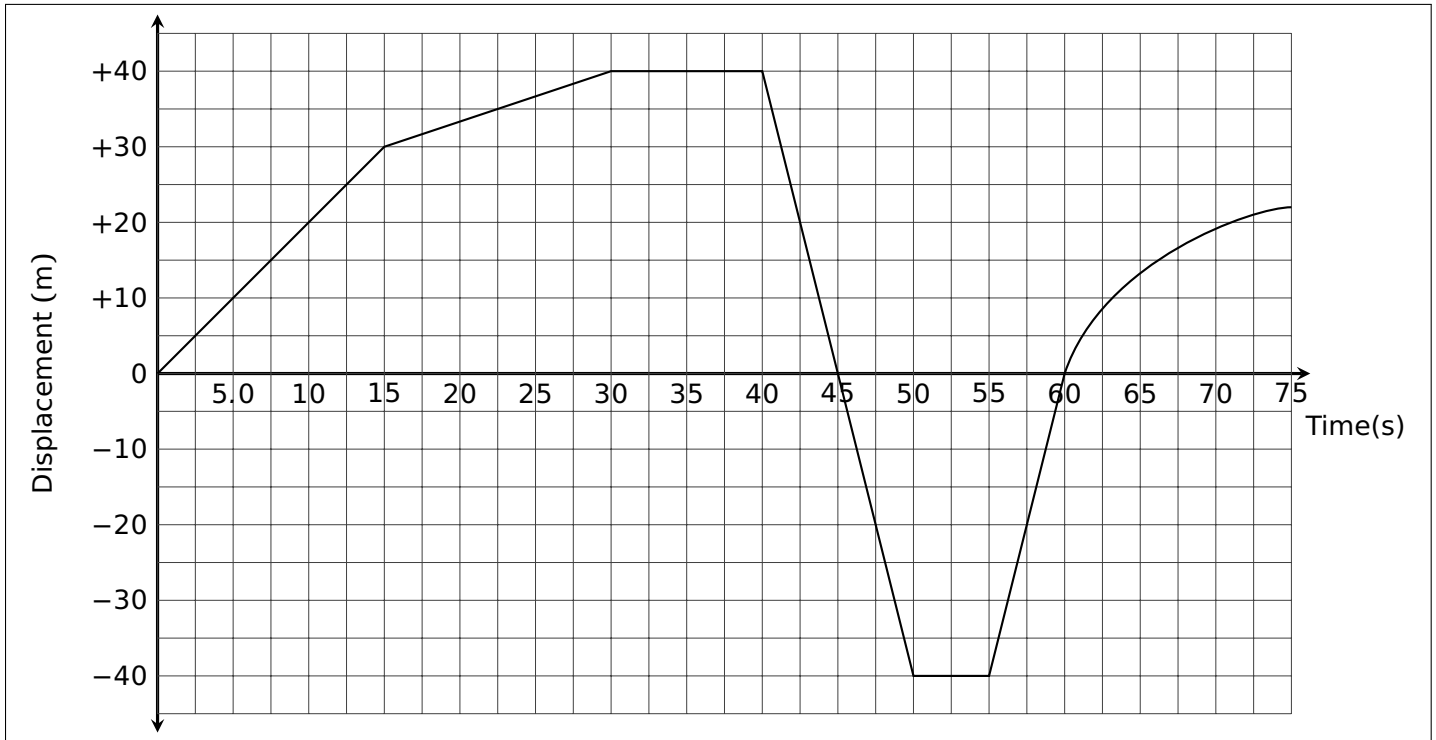
1. During what time intervals was the car going east? 1. \_\_\_\_\_
2. During what time intervals was the car stopped? 2. \_\_\_\_\_
3. What was the speed of the car at 1.0 s? 3. \_\_\_\_\_
4. What was the velocity of the car at 1.0 s? 4. \_\_\_\_\_
5. What was the average velocity of the car in the first 4.0 s? 5. \_\_\_\_\_
6. When did the car start to go west? 6. \_\_\_\_\_
7. What was the car's velocity at 5.5 s? 7. \_\_\_\_\_
8. What was the car's speed at 5.5 s? 8. \_\_\_\_\_
9. What was the car's displacement at 6.0 s? 9. \_\_\_\_\_
10. What was the car's velocity at 7.6 s? 10. \_\_\_\_\_
11. What was the car's total displacement? 11. \_\_\_\_\_
12. What was the total distance the car travelled? 12. \_\_\_\_\_
13. What was the average velocity for the trip? 13. \_\_\_\_\_
14. What was the average speed for the trip? 14. \_\_\_\_\_

**Motion Graph #3** - The following graph indicates the motion of an object along an East-West path.



- |  |           |
|--|-----------|
| 1. Was the object ever stopped? If so, when?             | 1. _____  |
| 2. What was the total distance travelled in 8.0 s?       | 2. _____  |
| 3. What was the total displacement after 8.0 s?          | 3. _____  |
| 4. What was the speed at the 2.0 s point?                | 4. _____  |
| 5. What was the speed at the 6.0 s point?                | 5. _____  |
| 6. What was the velocity at 2.0 s?                       | 6. _____  |
| 7. What was the velocity at 6.0 s?                       | 7. _____  |
| 8. What was the velocity at 13 s?                        | 8. _____  |
| 9. When did the object return to the starting point?     | 9. _____  |
| 10. What was the average speed in the first 8.0 s?       | 10. _____ |
| 11. What was the average velocity in the first 8.0 s?    | 11. _____ |
| 12. What was the total distance travelled by the object? | 12. _____ |
| 13. What was the object's total displacement?            | 13. _____ |
| 14. What was the average velocity for the first 10 s?    | 14. _____ |
| 15. What was the average speed for the first 10 s?       | 15. _____ |

**Motion Graph #4** - The following graph indicates the motion of an object along an North-South path.



- |  |           |
|--|-----------|
| 1. What is the object's velocity at 20 s?                    | 1. _____  |
| 2. What is the object's speed at 45 s?                       | 2. _____  |
| 3. What is the object's velocity at 65 s?                    | 3. _____  |
| 4. How far did the object travel in the first 50 s?          | 4. _____  |
| 5. What was the object's displacement at 60 s?               | 5. _____  |
| 6. What is the object doing after the first 60 s             | 6. _____  |
| 7. What is the total distance travelled by the object?       | 7. _____  |
| 8. What is the object's final displacement?                  | 8. _____  |
| 9. What is the average speed of the object up to 40 s?       | 9. _____  |
| 10. What is the object's average velocity up to 71 s?        | 10. _____ |
| 11. When is the object travelling eastward?                  | 11. _____ |
| 12. When did the object change direction for the first time? | 12. _____ |