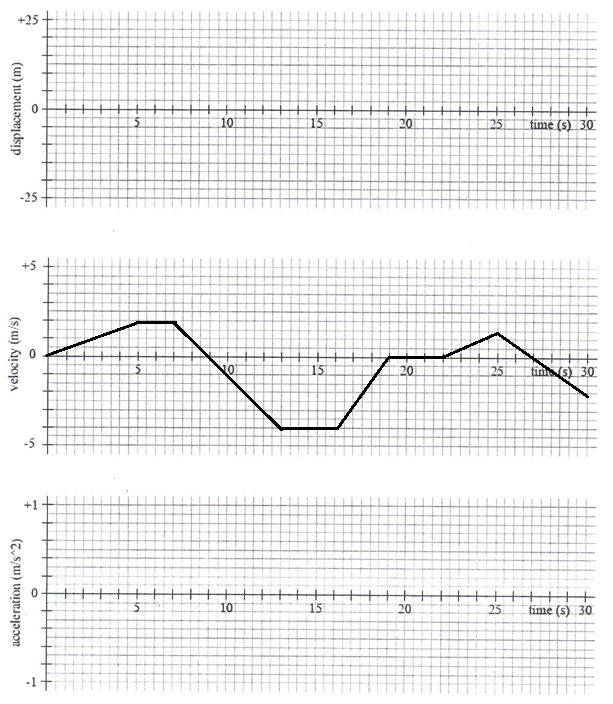
**Transforming Graphs of Motion 2**

Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Date: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Period: \_\_\_\_\_\_\_\_\_\_\_

1. **The middle graph shows the velocity of a hypothetical object moving along a straight line.**
2. Describe the motion for each section [Rest, +v,-v; CV, +a, -a]
3. Plot the corresponding graphs of displacement and acceleration as functions of time.

t X

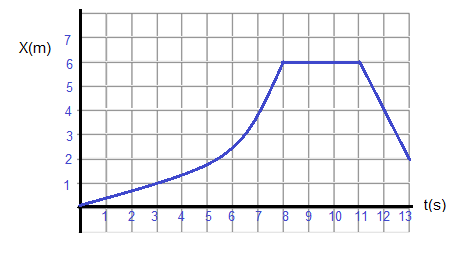
**II. Answer the following questions based on your graphs.**

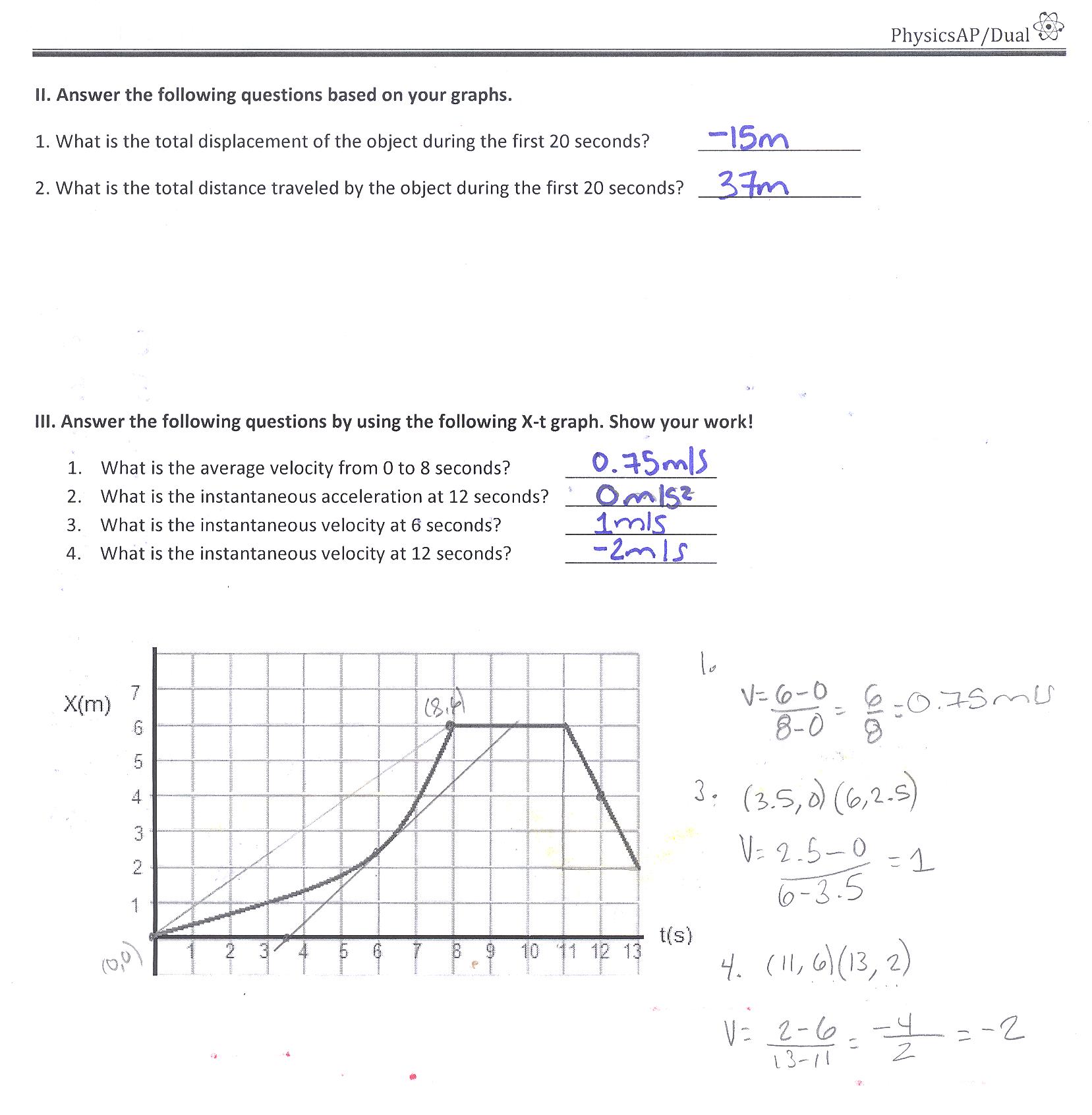
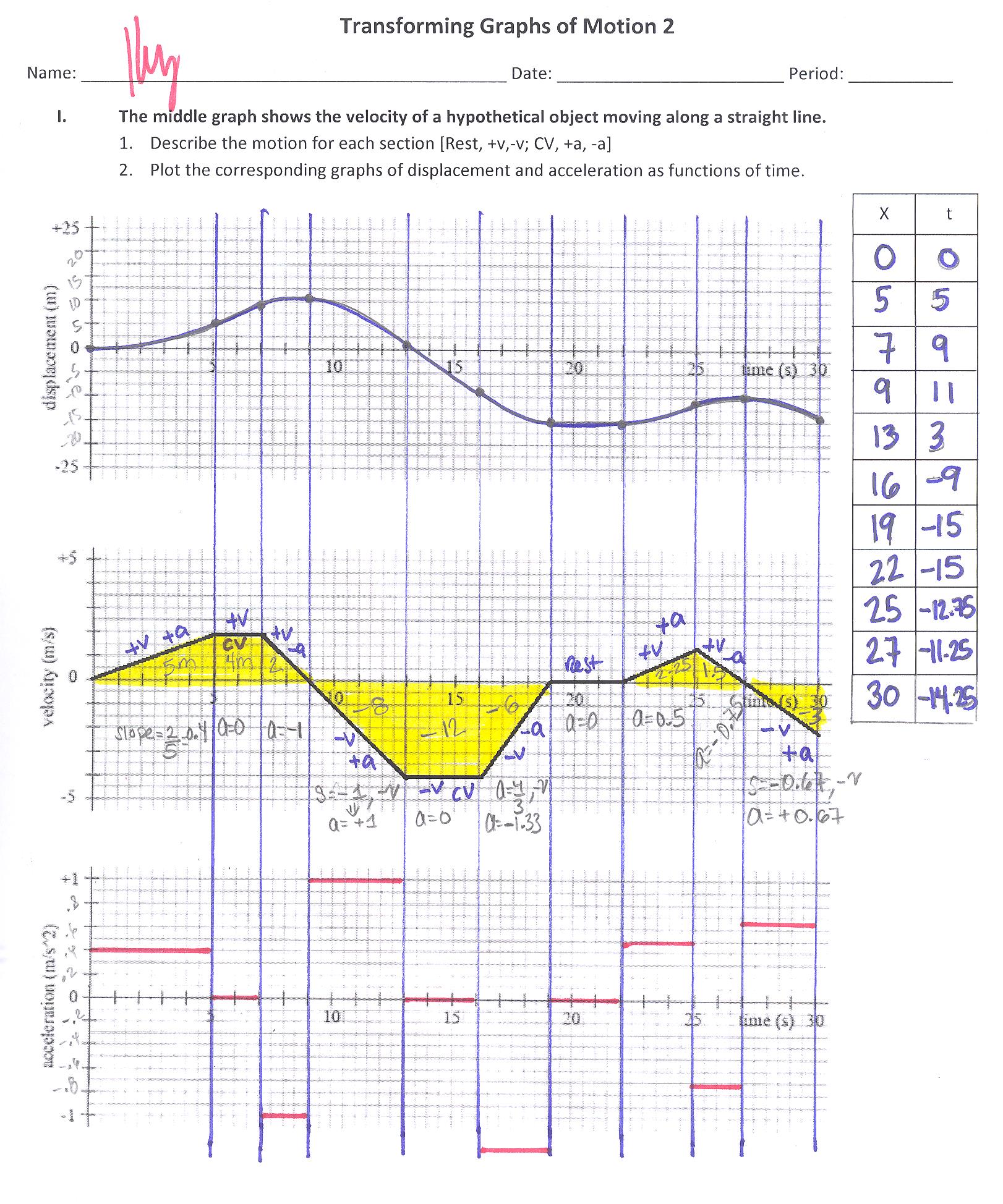
1. What is the total displacement of the object during the first 20 seconds? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

2. What is the total distance traveled by the object during the first 20 seconds? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**III. Answer the following questions by using the following X-t graph. Show your work!**

1. What is the average velocity from 0 to 8 seconds? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
2. What is the instantaneous acceleration at 12 seconds? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
3. What is the instantaneous velocity at 6 seconds? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
4. What is the instantaneous velocity at 12 seconds? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_





X

t