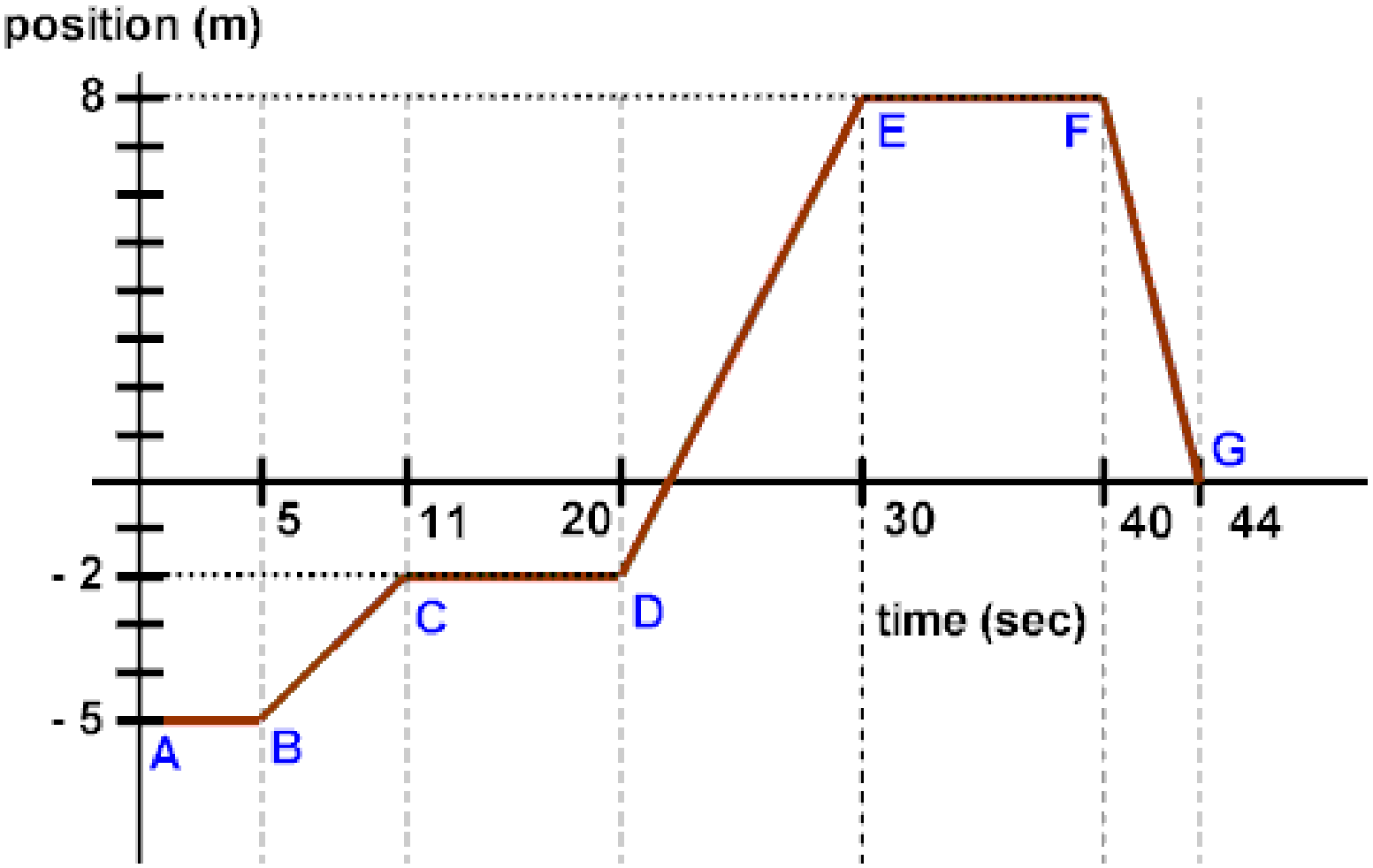
Position – Time Graph

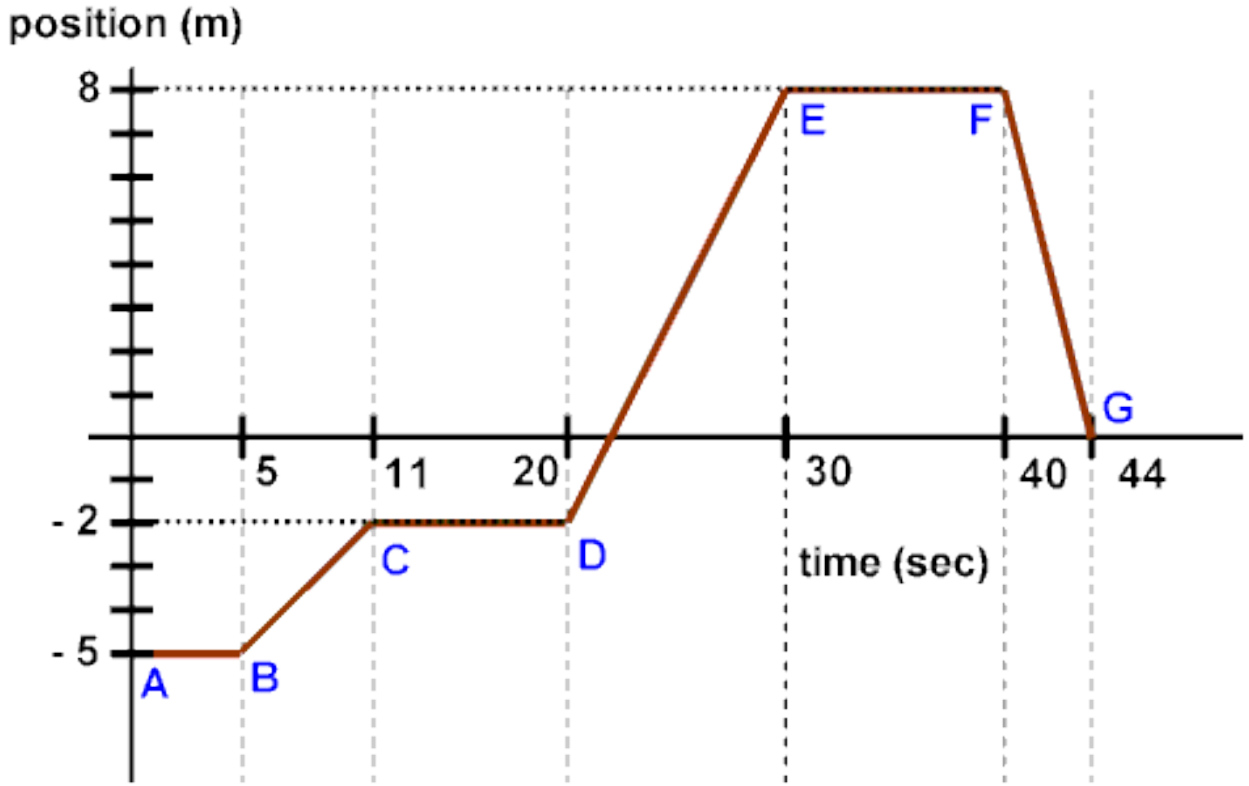
PRACTICE

Use this graph to answer the following TP Questions



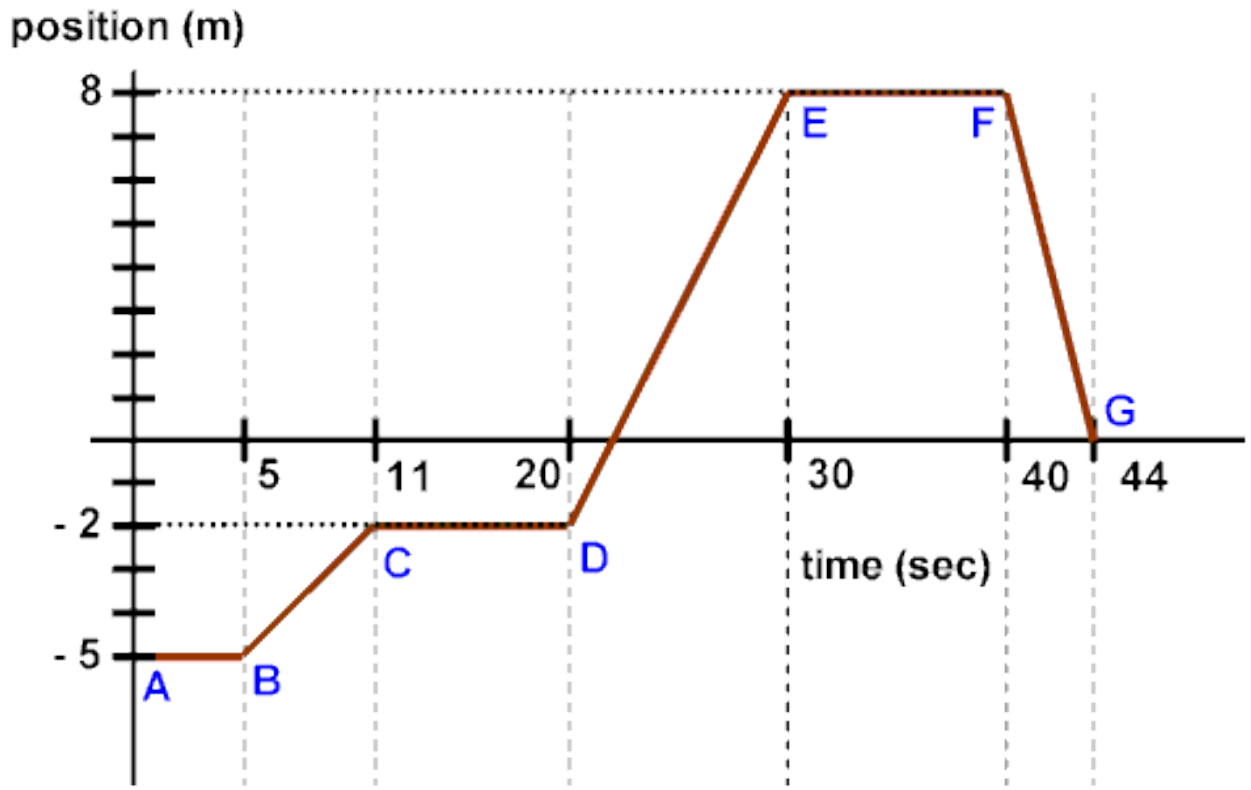
During which time interval was the cart at rest for the longest time period?

1. AB
2. BC
3. CD
4. DE
5. EF
6. FG



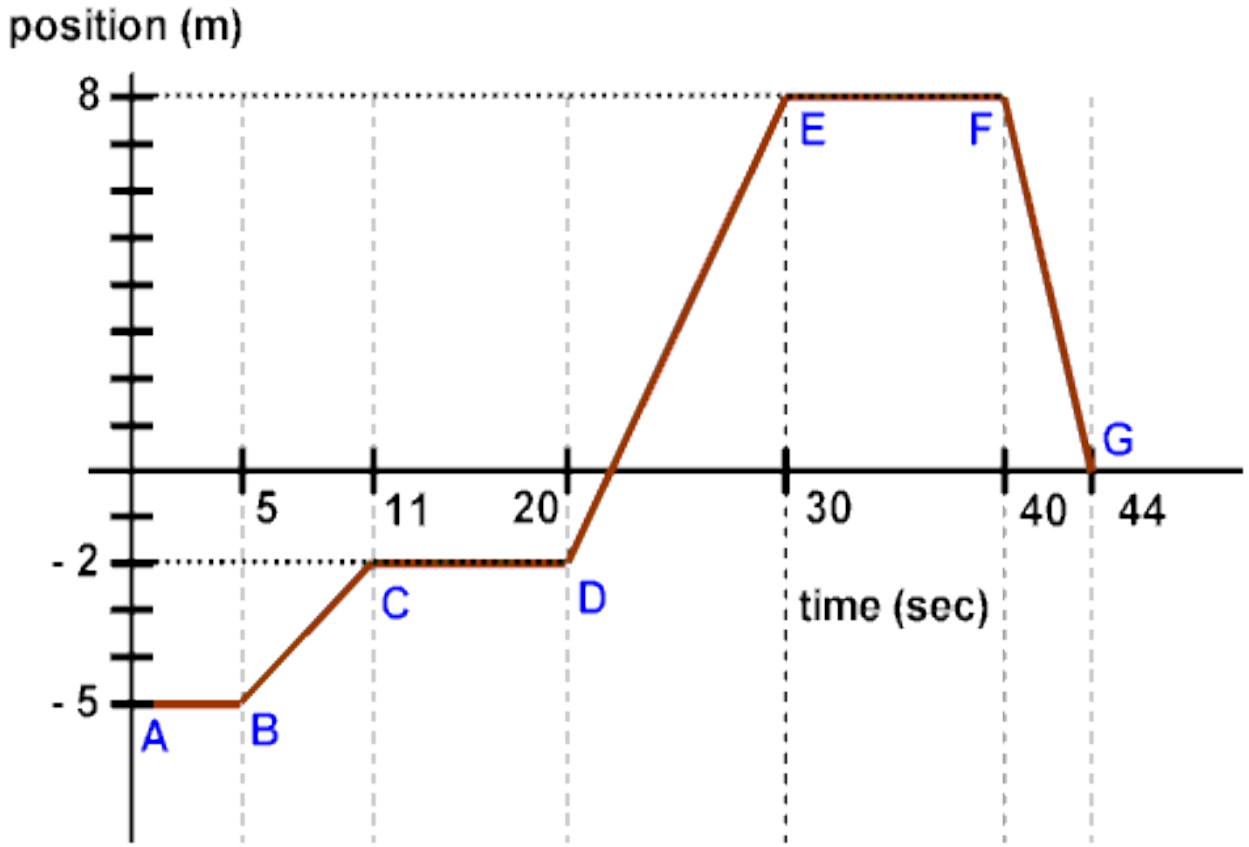
During which time interval did the cart travel in a negative direction?

1. AB
2. BC
3. CD
4. DE
5. EF
6. FG



What is the total distance traveled by the cart?

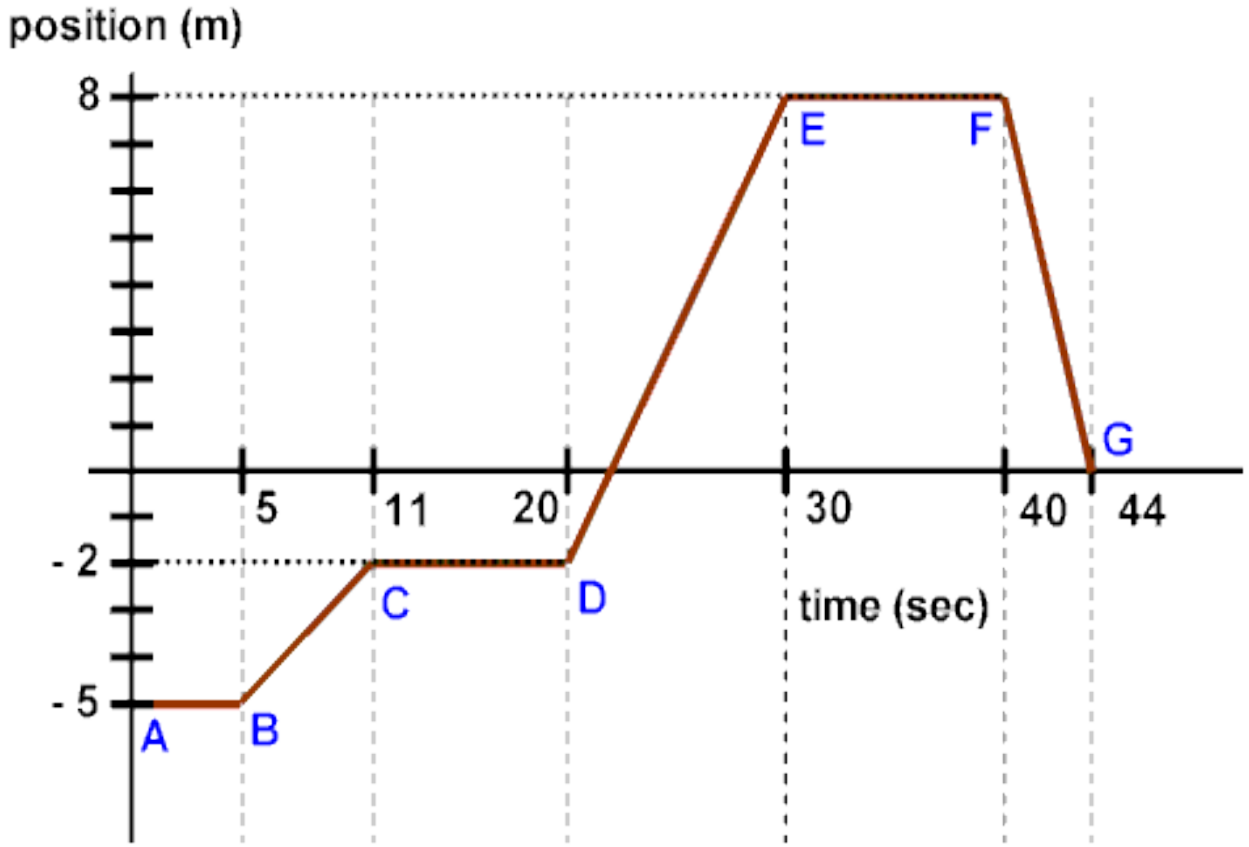
1. 3m
   0%
2. 5m
   0%
3. 8m
   0%
4. 13m
   0%
5. 21m
   0%
6. Don't know
   0%



Is <u>distance</u> a scalar variable or a vector variable?

What is the total displacement of the cart?

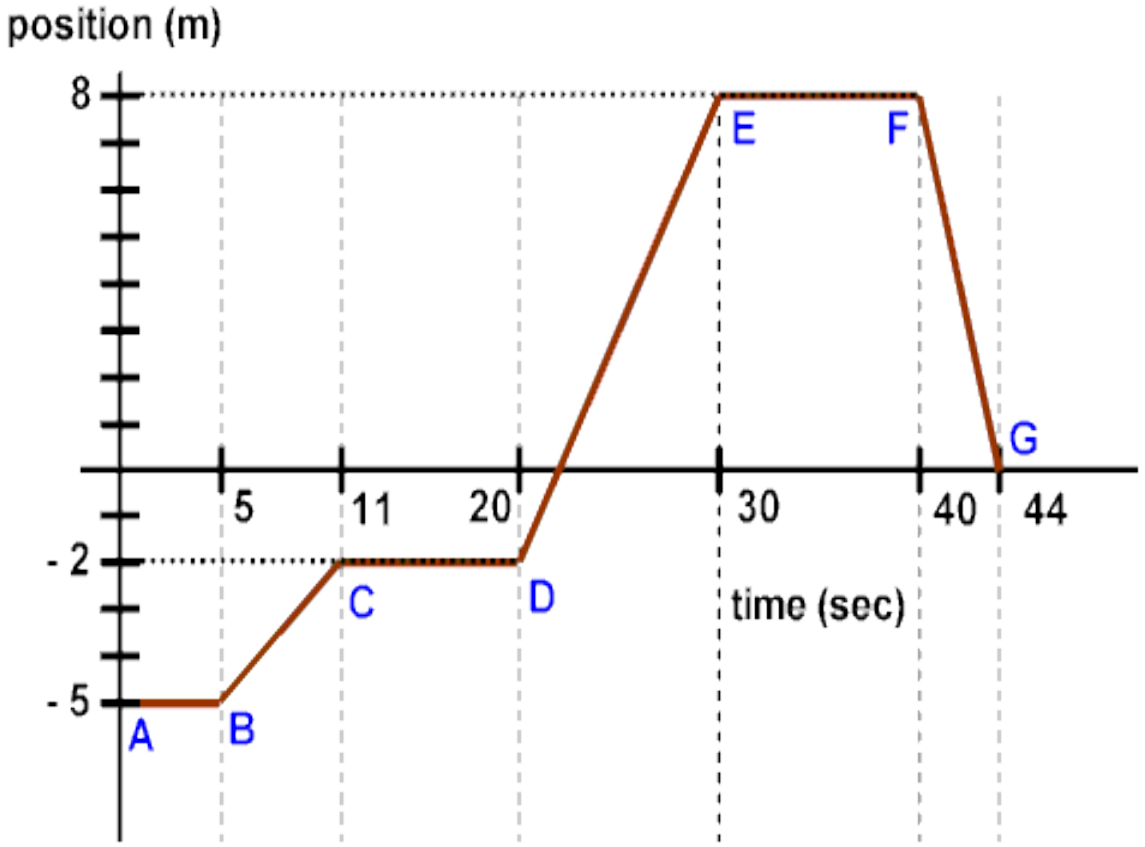
1. -3m
   0%
2. +5m
   0%
3. +8m
   0%
4. -5m
   0%
5. +44m
   0%
6. Don't know
   0%



Is <u>displacement</u> a scalar variable or a vector variable?

At Point F what happens to the cart?

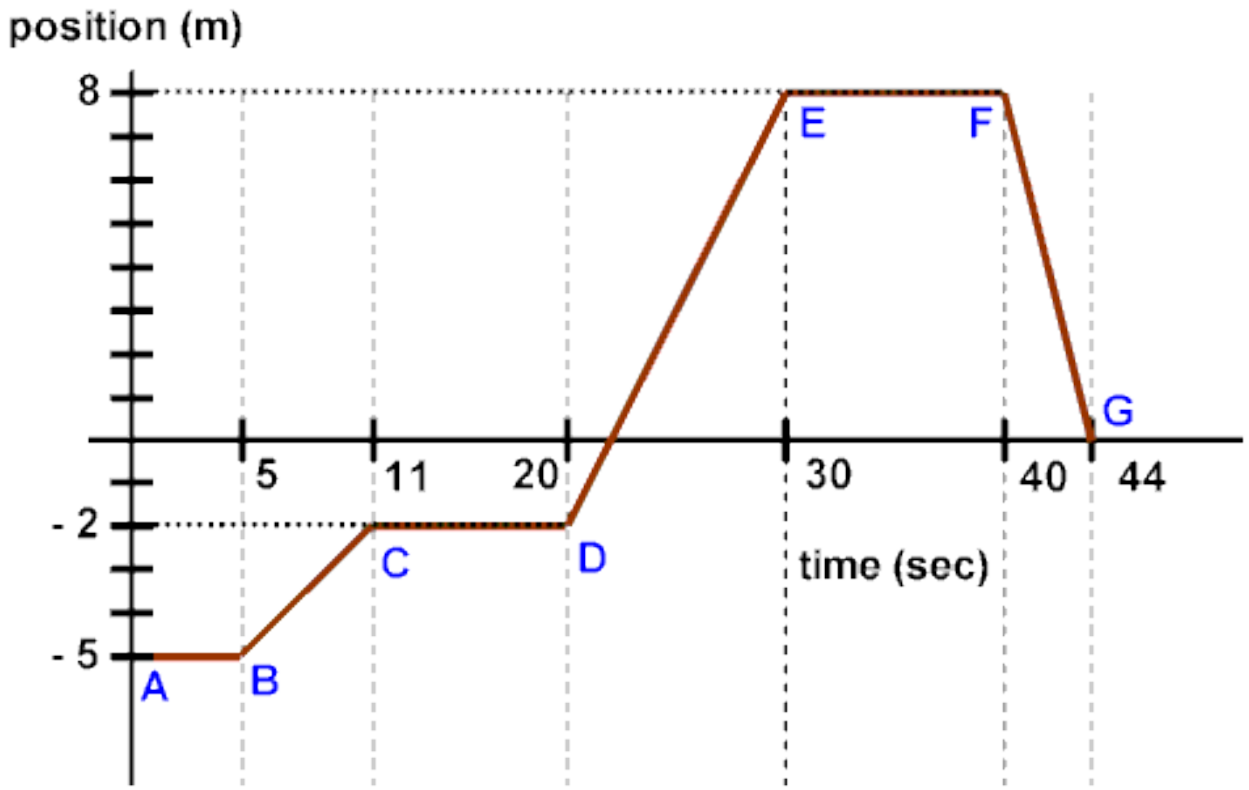
1. Speeds up
   0%
2. Slows down
   0%
3. Unchanged
   0%
4. Turns Around
   0%
5. Turns Right
   0%



Is <u>velocity</u> a scalar variable or a vector variable?

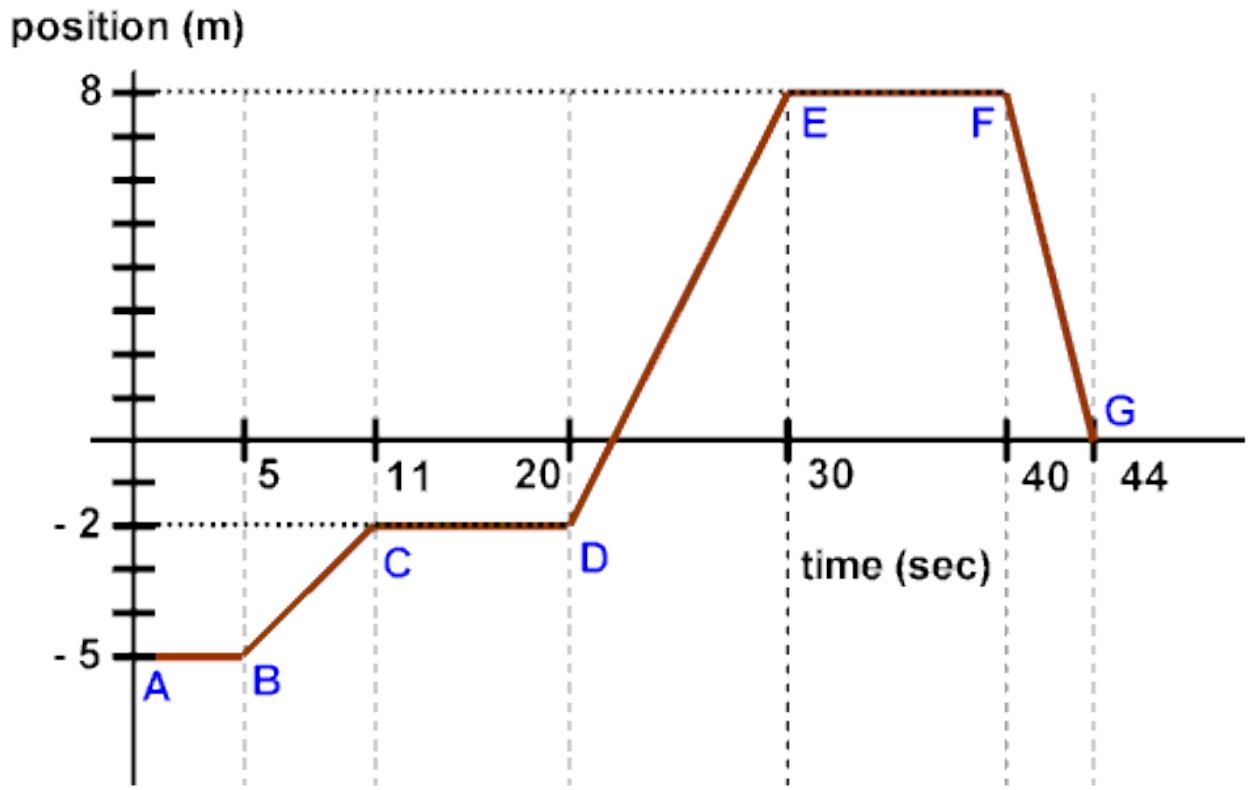
During which time interval was the cart traveling at its greatest speed?

1. AB
2. BC
3. CD
4. DE
5. EF
6. FG



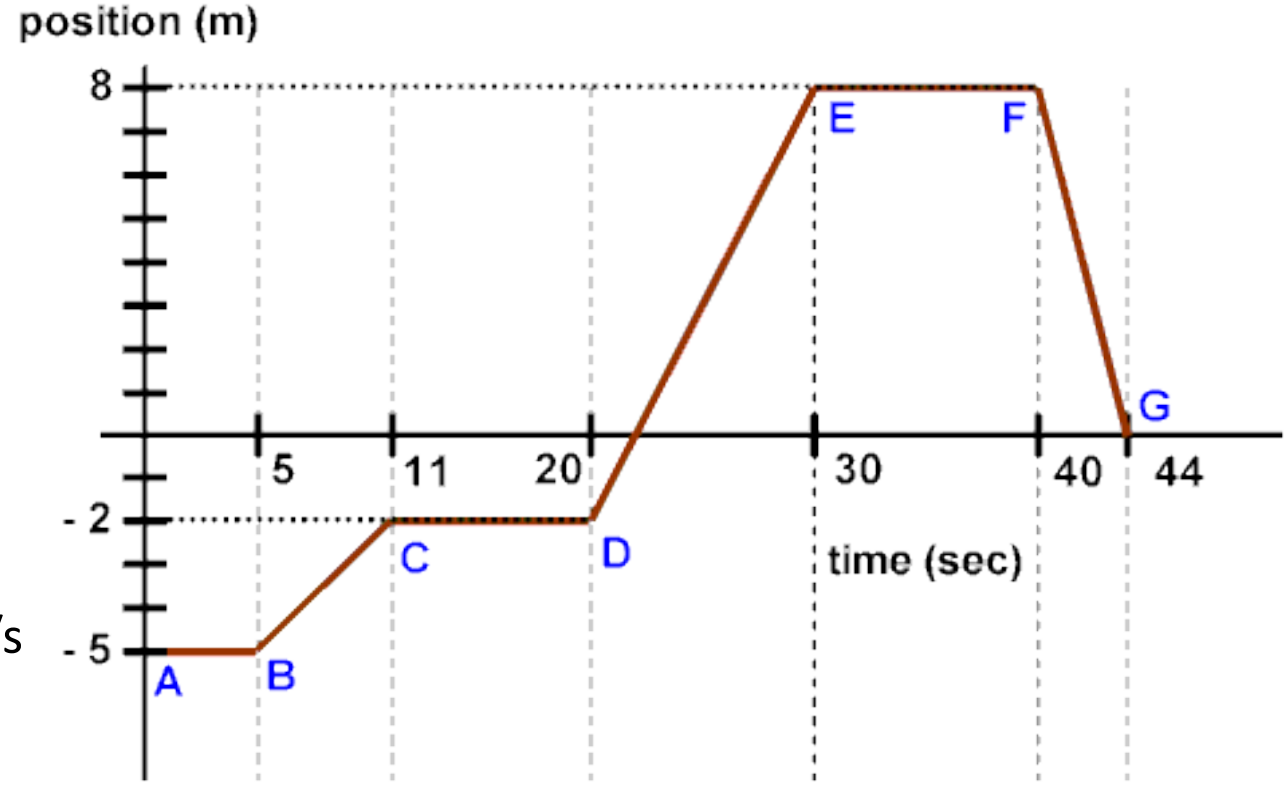
During which time interval was the cart traveling at its smallest (nonzero) speed?

1. AB
2. BC
3. CD
4. DE
5. EF
6. FG



How fast is the car going during segment DE? (show work)

- Point1: D (20,-2)
- Point 2: E (30,8)



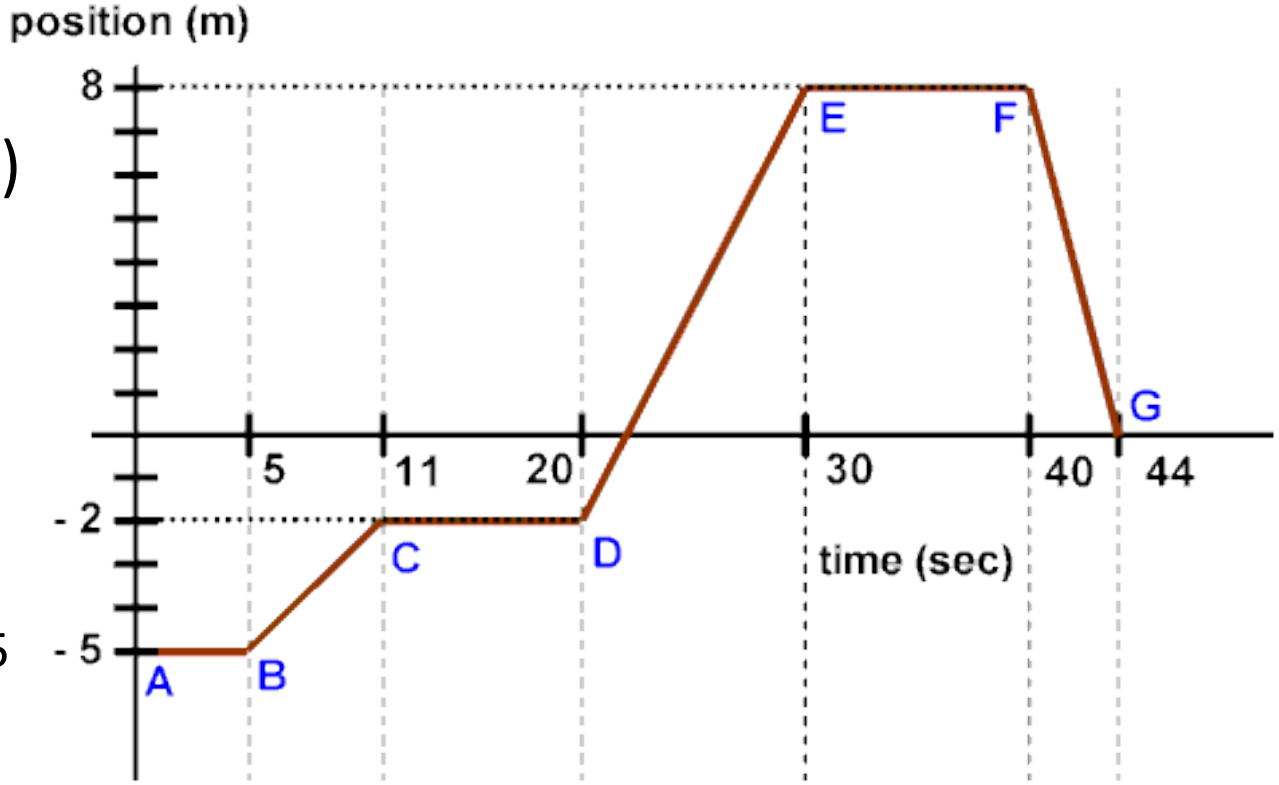
- Rise / Run
- $\frac{Y2 - Y1}{X2 - X1}$

$= \frac{8 - -2}{30 - 20} = \frac{10}{10} = +1 m/s$

Is speed a scalar variable or a vector variable?

How fast is the car going during segment BC? (show work)

- Point1: B (5,-5)
- Point 2: C (11,-2)



- Rise / Run
- $\frac{Y2 - Y1}{X2 - X1}$

$= \frac{-2 - (-5)}{11 - 5}$