

Ethel observes both her clock and Milt's clock to read 12:00 when he passes her in his glass rocket travelling at half the speed of light. What does Milt observe Ethel's clock to read when he passes her?

- A) 12:00
- B) An earlier time
- C) A later time
- D) Either B or C, but I'm not sure which.





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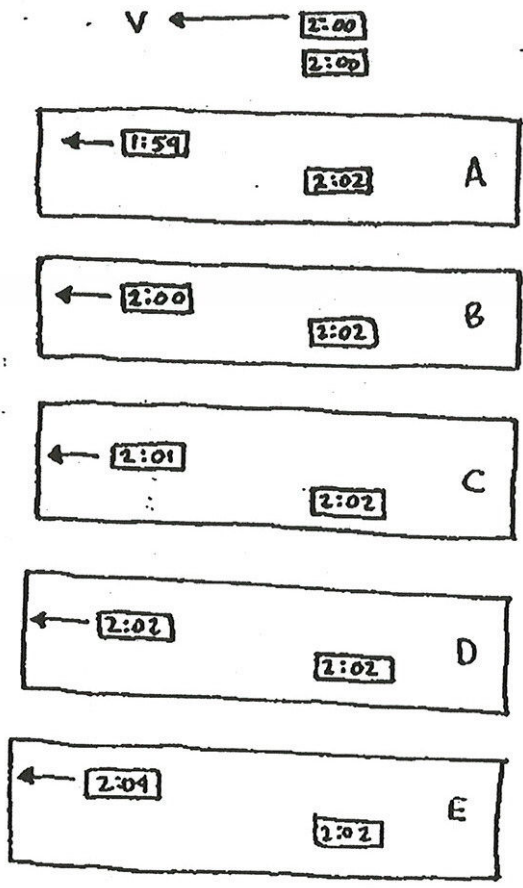
The two clocks passing each other represents a definite event. (i.e. specific location, specific time) Both Milt & Ethel are present at this event, and if they are both looking at the same clock (Ethel's clock) they will see the same thing!

A) 12:00

B) An earlier time

C) A later time

D) Either B or C, but I'm not sure which.



Two identical clocks are set to the same time as one passes the other at high velocity (as shown in the top figure). Which of the other figures represents a possible observation of the clocks at some later time in the frame of the fixed clock. (Assume the readings on the clocks are exact).

V ← $2:00$
 $2:00$

← $1:59$ $2:02$ A

← $2:00$ $2:02$ B

← $2:01$ $2:02$ C

← $2:02$ $2:02$ D

← $2:04$ $2:02$ E

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(Assume the readings on the clocks are exact).

Time dilation: moving clock appears to run slower (but still forward).

∴ Time on moving clocks should be between $2:00$ and $2:02$ depending on velocity (but not equal to $2:00$ or $2:02$) when fixed clock reads $2:02$