Answer on Question #42304 – Math - Algebra

Task:

What time does the two cars pass each other on the journey? Journey starts at 11.00hrs.
Car A travels at 60mph and takes 3.5 hours to finish the journey.
Car B travels at 33mph and takes 8 hours to finish the journey.

Solution:

Let x be the time that cars were on the journey before meeting. Construct a table due to the task:

	V (mph)	T (h)	S (m)
Car A before meeting	60	x	$60x$
Car A after the meeting	60	3.5	$60 * 3.5 = 210$
Car A in all	60	$3.5 + x$	$210 + 60x$
Car B before meeting	33	x	$33x$
Car B after the meeting	33	8	$33 * 8 = 264$
Car B in all	33	$8 + x$	$264 + 33x$

It is known that the cars drove the same distance. Then:

$$210 + 60x = 264 + 33x$$

$$27x = 54$$

$$x = 2$$

Cars were on their way to a meeting 2 hours. Cars met at 13.00.

Answer: Cars met at 13.00