American Truck and Rail Audits, Inc.
Fall 2018 Brain Teaser

Pumpkin Patch Pace

At what point will the train catch up to the truck?

A train and a truck both leave from the same pumpkin patch headed parallel to each other, in the same direction. The truck leaves three minutes before the train. If the truck travels at 40mph and the train travels at 70mph, how many miles from the pumpkin patch will the train catch up to the truck?

MINUTES	TRUCK TRAVELED AT 40MPH	TRAIN TRAVELED AT 70MPH
1	2/3 MI	0 MI
2	1 1/3 MI	0 MI
3	2 MI	0 MI
4	2 2/3 MI	1 1/6 MI
5	3 1/3 MI	2 1/3 MI
6	4 MI	3 1/2 MI
7	4 2/3 MI	4 2/3 MI

Answer: 4 & 2/3 miles

Answer verified:
First determine how many miles each moves in a minute
Truck   40mph = 2/3 mi/min
Train   70mph = 1 1/6 mi/min

Next, create a chart keeping track of how far each has traveled every minute and continue to add for each minute until they are equal. Don't forget to account for the 3 minute head start the truck had!

Or for our math wizards:

After determining the miles per minute, you will create equations representing the miles and minutes for each.

Don't forget that the train left 3 minutes after the truck

Truck = (x * 2/3)
Train = [(x-3)* 1 1/6]

Set them equal and solve for x to determine how minutes it would take for them to be equal.

(x * 2/3) = [(x-3)* 1 1/6]
X = 7

Once you know the minutes, you can multiply the minutes by how many miles either moves per minute.

Truck = 7*2/3 = 4 2/3 miles
Rail = [(7-3)* 1 1/6] = 4 2/3 miles

Source: https://www.mensa.org.uk/puzzles/brainteasers

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