

## I-49

A car, initially at rest, accelerates toward the west at  $2.0 \text{ m/s}^2$ . At the same time that the car starts, a truck, 350 m west of the car and moving at 16 m/s toward the east, starts to move slower, accelerating at  $1.0 \text{ m/s}^2$ . The car and truck pass safely.

### Motion Diagram



### Motion Information

Object:		Object:	
Event 1:	Event 2:	Event 1:	Event 2:
$t_1 =$	$t_2 =$	$t_1 =$	$t_2 =$
$r_1 =$	$r_2 =$	$r_1 =$	$r_2 =$
$v_1 =$	$v_2 =$	$v_1 =$	$v_2 =$
$a_{12} =$		$a_{12} =$	

### Mathematical Analysis