

Plane 1 leaves city A at 7 am and flies at a speed of 250 mph in a straight line towards city B, located 1000 miles North of city A.

Plane 2 leaves city C located 300 miles East and 400 miles North of city A at 7:30 am and flies West at a speed v mph.

The planes fly at the same altitude. For which value of v do they collide ?