A plane flies east for 50.0 km , then at an angle of $30.0^{\circ}$ north of east for 75.0 km .

In what direction should it now fly and how far, such that it will be 200 km northwest of its original position?

The velocity of an aircraft is $200 \mathrm{~km} / \mathrm{hr}$ due west. A northwest wind of $50 \mathrm{~km} / \mathrm{hr}$ is blowing, (a) What is the velocity of the aircraft relative to the ground?
(b) If the pilot's destination is due west, at what angle should he point his plane to get there? (c) If his destination is 400 km due west, how long will it take him to get there?

Note that all winds are defined in terms of the direction from which the wind blows. Hence, a northeast wind
southwest

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A body with unknown initial velocity moves with constant acceleration. At the end of 8.00 s , it is moving at a velocity of $50.0 \mathrm{~m} / \mathrm{s}$
$\qquad$ and it is 200 m from where it started. Find the body's acceleration and its initial velocity. $\qquad$
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