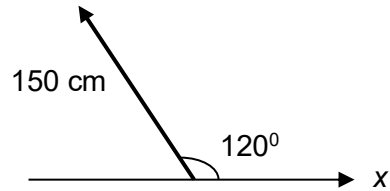2   A man pushing a mop across a floor causes it to undergo two displacements. The first has a magnitude of 150 cm and makes an angle of 120° with the positive x-axis as shown below. The resultant displacement has a magnitude of 140 cm and is directed at an angle of 30.0° to the positive x-axis. Both angles are measured anti-clockwise with respect to the positive x-axis.

150 cm

120⁰

x

What are the magnitude and direction of the second displacement?

	magnitude / cm	angle to the positive x-axis / ⁰
A	205	−17
B	205	17
C	290	−90
D	290	90