A boat leaves a harbour A on a course of 120 degrees and it sails 50 km in this direction until it reaches point B. How far is B east of A and what distance south of A is B?

x – how far is B east of A
y – how far is B south of A

$$x = 50 \cdot sin30° = 25 \; km$$
$$y = 50 \cdot cos30° = 43{,}3 \; km$$

B is 25 km east of A
B is 43,3 km south of A