4. Two forces **P** and **Q** act on a particle. The force **P** has magnitude 7 N and acts due north. The resultant of **P** and **Q** is a force of magnitude 10 N acting in a direction with bearing 120°. Find

(i) the magnitude of **Q**,

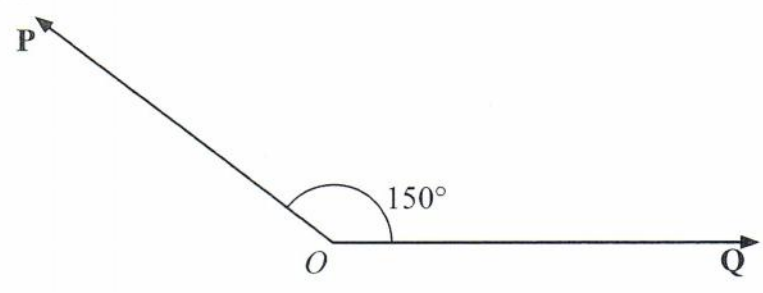(ii) the direction of **Q**, giving your answer as a bearing.

(9)

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5.

Figure 1

Two forces **P** and **Q** act on a particle at a point O. The force **P** has magnitude 15 N and the force **Q** has magnitude X newtons. The angle between **P** and **Q** is 150°, as shown in Figure 1. The resultant of **P** and **Q** is **R**.

Given that the angle between **R** and **Q** is 50°, find

(a) the magnitude of **R**,

(4)

(b) the value of X.

(5)