24 A compass placed horizontally points north due to the horizontal component of the Earth's magnetic field, which is 3.5×10^{-5} T. A vertical wire is placed due south of the compass and produces a magnetic field of 6.7×10^{-5} T at the location of the compass. When a current of 3.0 A flows downwards through the wire, the compass needle deflects.

What is the angle and direction of the deflection?

A 28° east of north
B 28° west of north
C 62° east of north
D 62° west of north