

| Question |     | Answer                                                                                                                                                   | Mks                                                   | AO                                          | Guidance                                                                                                                      |                                                                                                                      |
|----------|-----|----------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------|---------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------|
| 3        | (i) | $\sin \theta = 0.5$ and $-0.5$ or $\sin \theta = \pm\sqrt{0.25}$ both<br>$\theta = 30^\circ$ and $150^\circ$<br><br>$\theta = 210^\circ$ and $330^\circ$ | <b>B1</b><br><b>B1</b><br><br><b>B1</b><br><b>[3]</b> | <b>1.1a</b><br><b>1.1</b><br><br><b>1.1</b> | "-0.5" may be implied by <b>all 4 answers</b><br>Ignore other answers for this B1<br><br>NB Correct ans with no wking: B1B1B1 | $\sin \theta = 0.5, \theta = 30$ and $210$<br>B0B0B0<br><br>$\sin \theta = \pm 0.5, \theta = 30$ and $210$<br>B1B0B0 |
|          |     | <b>DR</b><br>$60^\circ$ and $240^\circ$ seen or implied<br>$20^\circ$ seen<br>$\phi = 20^\circ, 80^\circ$ With no other sol'ns                           | <b>B1</b><br><b>B1</b><br><b>B1</b><br><b>[3]</b>     | <b>1.1a</b><br><b>1.1</b><br><b>1.1</b>     | Both needed, but ignore other values<br><br>SC: correct ans with no wking: B0B1B0                                             |                                                                                                                      |