

2.3 Answers

2.3.1 Solutions (2.1.2 Example)

$|s| = 5.72$

$\theta = 63^\circ$

$\text{Direction} = 243^\circ$

[4 marks]

2.3.2 Solutions (2.1.2 Exercise)

Answer 1

$|a| = 14.18$

$\theta = 37.8^\circ$

$\text{Direction} = 322.2^\circ$

$|b| = 9.60$

$\theta = 38.6^\circ$

$\text{Direction} = 38.6^\circ$

$|c| = 8.73$

$\theta = 66.4^\circ$

$\text{Direction} = 113.6^\circ$

$|d| = 14.86$

$\theta = 29.0^\circ$

$\text{Direction} = 209.0^\circ$

$|e| = 23.78$

$\theta = 53.0^\circ$

$\text{Direction} = 307.0^\circ$

[4, 4, 4, 4, 4 marks]

Answer 2

$|f| = 7.88$

$\theta = 20.0^\circ$

$\text{Direction} = 340.0^\circ$

$|g| = 13.42$

$\theta = 26.6^\circ$

$\text{Direction} = 26.6^\circ$

$|h| = 4.95$

$\theta = 45.0^\circ$

$\text{Direction} = 135.0^\circ$

$|i| = 16.23$

$\theta = 22.5^\circ$

$\text{Direction} = 202.5^\circ$

$|e| = 16.05$

$\theta = 85.4^\circ$

$\text{Direction} = 274.6^\circ$

[4, 4, 4, 4, 4 marks]

Answer 3

$|k| = 29.68$

$\theta = 57.4^\circ$

$\text{Direction} = 57.4^\circ$

[2 marks]

Answer 4

$$\begin{pmatrix} 3.4655 \\ 7.4317 \end{pmatrix}$$

[4 marks]

Answer 5

$y = \pm 7.1$

$49.8^\circ \text{ or } 310.2^\circ$

[2 marks]

Answer 6

$|z| = 6.71$

$\theta = 26.6^\circ$

$\text{Bearing} = 117^\circ$

[2 marks]