

2 Session Two - Complex Numbers and Vectors

Answers to Workshop Questions

(1) $6 - i, -8 + 6i$

(2) $-4i, 8$

(4) $3(\cos(5) + i\sin(5)), 2$

(5) $2\sqrt{2}, \pi/4, (2\sqrt{2}\angle\pi/4), 2\sqrt{2}e^{i\pi/4}$

(6) $5, -0.93 \text{ rad}, (5, \angle 0.93), 5e^{-0.93i}$

(7) $0, \pi/2, 0.59 \text{ rad}$

(8) $4 - 3i, (1 - g)e^{g(2-2i)}$

(10) $14/252i/25, 3 - i$

(11) $2\hat{i} + 2\hat{j}, \pi/4, 2\sqrt{2}$

(15) $6\hat{i} + \hat{j}, 5\hat{i} + \hat{j}$

(16) $9\hat{i} + 6\hat{j}$

(17) $-\hat{i} + 3\hat{j}, 3\hat{j}$

(18) $6\hat{i} - 2\hat{j}, 2\sqrt{10}, \tan^{-1}(2/6) \text{ below axis}$

(19) $7, 7, 4, 13$

(20) $9\hat{k}, -9\hat{k}, 8\hat{k}, 0$

(21) $9, -3\hat{i} - 9\hat{j} + 3\hat{k}$

(22) $5, 0.93 \text{ rad}, \sqrt{5}, 2.67 \text{ rad}$