

Team Name: _____ Section: _____

Members Present (full names printed):

- 1) _____
- 2) _____
- 3) _____
- 4) _____

BOX IN YOUR ANSWERS FOR EACH PROBLEM IN THIS HANDOUT**Conversions – Show all your work**

- 1) Convert $200 + j0.02$ to polar form (angle in degrees)
- 2) Convert $-1000 + j20$ to polar form (angle in degrees)
- 3) Convert $6\angle 40^\circ$ to rectangular form

Conversions – Use your calculator

- 4) Convert $-8 - j16$ to polar form (angle in degrees)
- 5) Convert $2000\angle -90^\circ$ to rectangular form
- 6) Convert $15\angle 180^\circ$ to rectangular form

Addition and Subtraction – Show your work

Solve the following (answers in rectangular form):

7) $(4.2 + j6.8) + (7.6 + j0.2)$

8) $(6.8 - j4.2) - (0.2 + j7.6)$

9) $6\angle 40^\circ - (15 + j0)$

Addition and Subtraction – Use your calculator

Solve the following (answers in rectangular form):

10) $10\angle 80^\circ - 12\angle 65^\circ$

11) $(4.2 + j6.8) - (7.6 + j0.2)$

12) $(6.8 + j4.2) + (0.2 + j7.6)$

Multiplications and Division – Show your work

Solve the following (answers in polar form, angles in degrees):

13) $(2 + j3)(6 + j8)$

14) $2\angle 60^\circ / 12\angle 65^\circ$

15) $(2 + j3)/(6 + j8)$

Multiplications and Division – Use your calculator

Solve the following (answers in polar form, angles in degrees):

16) $(3 + j3)(7 + j8)$

17) $3\angle 45^\circ / 1\angle 5^\circ$

18) $(2 - j3)/(6 + j2)$

Conjugation and Problem Solving

19) Find the complex conjugate of $(3 + j4)$

20) Find the complex conjugate of $3\angle 45^\circ$

21) Find x if: $(5x + j10)(2 - j3) = 90 - j70$

22) Find θ if: $80\angle 0^\circ / 20\angle \theta = 3.464 - j2$