

Name: _____

Trigonometric Form for Complex Numbers

1) Express each of the following complex numbers in trigonometric form:

1) $3+3i$

2) $3+\sqrt{3}i$

3) $-2\sqrt{3}-2i$

4) $\sqrt{2}-i\sqrt{2}$

5) -8

6) $-2i$

7) $-12+5i$

8) $-4-3i$

2) Find the modulus and argument of each of the following complex numbers.

1) 3

2) -2

3) $2i$

4) $-5i$

5) $5+12i$

6) $-5-12i$

7) $7-24i$

8) $-7+24i$

3) Find the modulus and argument of each of the given complex numbers

1) $-\sqrt{2}+\sqrt{2}i$

2) $-1-\sqrt{3}i$

3) $1+\sqrt{3}i$

4) Convert the complex number $z = \frac{1}{2}(1+\sqrt{3}i)$ to the trigonometric form

- 5) a) Write $-\sqrt{3} + i$ in trigonometric form, and then represent it graphically.
b) Express $2(\cos 300^\circ + i \sin 300^\circ)$ in standard form
- 6) Write $z = -1 + i$ in trigonometric form
- 7) Write in trigonometric form : $z = -2 - 4i$
- 8) Express each expression as a complex number then write it in trigonometric form
- 1) $\sqrt{-4} + 2$
 - 2) $\sqrt{-9} + \sqrt{4}$
 - 3) $\sqrt{\frac{-4}{169}} + \sqrt{\frac{100}{196}}$
 - 4) $\sqrt{-100} + 10$