Solve the following trigonometric equations without the aid of a calculator (3pts each)

1. $cos^{2}θ-cosθ=0$
2. $tan^{4}θ-2tan^{2}θ-3=0$
3. $sinθtanθ=sinθ$
4. $2cos^{2}θ-3cosθ-2=0$

Solve the following trigonometric equations with the aid of a calculator (3pts each)

1. $2cos^{2}θ=3sinθ$
2. $sinθ +cosθ=1$
3. $\cos(\left(2θ\right))-1=sinθ$
4. $-1-3sinθ=cos⁡(2θ)$

Graph the following polar points (2pts each)

1. (2, 30°)
2. (-1, $\frac{7π}{6}$ )
3. ($ \frac{7}{2}, 120°)$

Determine the distance between the polar points using the polar distance formula (3pts each)

1. (4, 45°) and (6.5, 330°)
2. (2, $\frac{π}{6} $) and (3, $\frac{-π}{3} $)

Determine 4 similar points in to the point given below in polar form (2pts each)

1. (2, $\frac{π}{3} $)
2. (-1, 120°)

Graph the following polar functions (3pts each)

1. r = 4
2. θ = -120°

Convert the polar coordinates to rectangular coordinates (3pts each)

1. (-2, 240°)
2. ($ \frac{1}{2}, \frac{π}{4} )$

Convert the rectangular coordinates to polar coordinates (3pts each)

1. (3,8)
2. (2,-2)

Convert the polar equations to rectangular equations (3pts each)

1. r = 3 cos(θ)
2. r = -2

Convert the rectangular equations to polar equations (3pts each)

1. $x^{2}+y^{2}=2y$
2. X = -7

Simplify the following complex numbers (3pts each)

1. (5 – 3i) + (-2 +4i)
2. (2 – 3i)(7 – 4i)

Determine the product or quotient of complex numbers in polar form (3pts each)

1. $ 4 (cos\frac{π}{3}+isin\frac{π}{3})×7(\cos(\frac{2π}{3})+isin \frac{2π}{3} )$
2. $6(cos\frac{3π}{4}+isin\frac{3π}{4})÷2(\cos(\frac{π}{4})+isin \frac{π}{4} )$

Use the formula for area of a sector to solve the problem below (4pts each)

1. Determine the area of a sector with a radius of 5 that spans an angle measure of 75°

MC 4 questions at 2pts each