

Name: _____

Unit H Review

$$x = r \cos \theta \quad y = r \sin \theta \quad \tan \theta = \frac{y}{x} \quad r = \pm \sqrt{x^2 + y^2} \quad D = \sqrt{r_1^2 + r_2^2 - 2r_1r_2 \cos(\theta_2 - \theta_1)}$$

For 1-3, find 3 additional pair of polar coordinates.

1) $\left(-5, \frac{\pi}{3}\right)$

2) $\left(3, -\frac{3\pi}{2}\right)$

3) $(1.5, -135^\circ)$

4) $(-2, 210^\circ)$

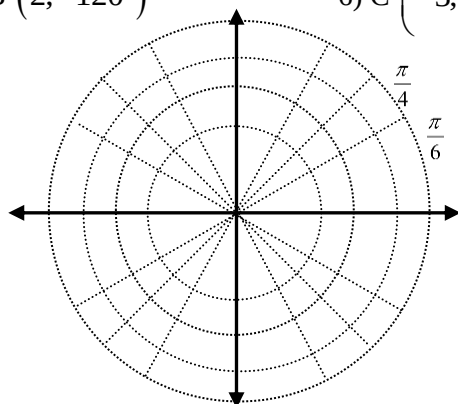
For 4-7, graph the points.

4) A $\left(-1, \frac{2\pi}{3}\right)$

5) B $(2, -120^\circ)$

6) C $\left(-3, -\frac{\pi}{4}\right)$

7) D $(-1, 180^\circ)$



For 8-10, find the distance between the two points. Round to the nearest tenth for length.

8) $(2, 150^\circ)$ & $(-4, 300^\circ)$

9) $\left(-8, \frac{\pi}{6}\right)$ & $(5, \pi)$

10) $(2, -5)$ & $(-3, 4)$

For 11-13, find the polar points. Round to the nearest degree. Leave radii as roots.

11) $(1, 3)$

12) $(2\sqrt{2}, -5)$

13) $(-3, \sqrt{3})$

For 14-16, find the rectangular points. Round to the nearest tenth when applicable.

14) $(-3, 100^\circ)$

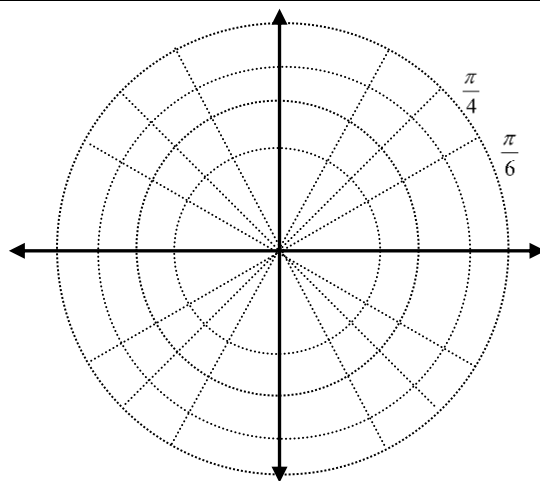
15) $(2, -150^\circ)$

16) $\left(-1, \frac{5\pi}{4}\right)$

17) Complete the table and graph $r = -2\sin\theta - 2$. Then identify the shape.

θ	0	$\frac{\pi}{6}$	$\frac{\pi}{4}$	$\frac{\pi}{3}$	$\frac{\pi}{2}$	$\frac{2\pi}{3}$	$\frac{3\pi}{4}$	$\frac{5\pi}{6}$
r								

θ	π	$\frac{7\pi}{6}$	$\frac{5\pi}{4}$	$\frac{4\pi}{3}$	$\frac{3\pi}{2}$	$\frac{5\pi}{3}$	$\frac{7\pi}{4}$	$\frac{11\pi}{6}$
r								



For 18-21, convert the polar equation to rectangular or vice-versa.

18) $r[-2\sin(\theta) + 3\cos(\theta)] = 2$

19) $\theta = -\frac{\pi}{4}$

20) $x^2 + y^2 = 7y$

21) $x = 6$