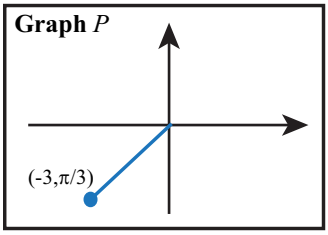
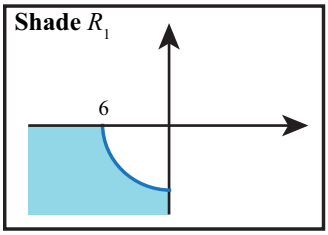
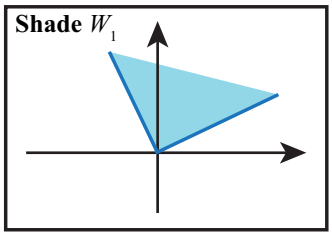
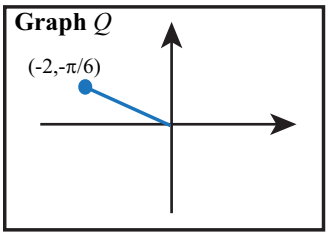
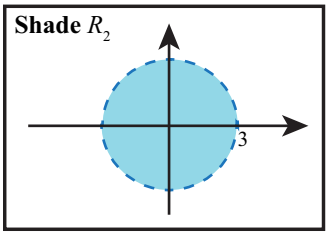
Polar Coordinates Worksheet - Answer Key

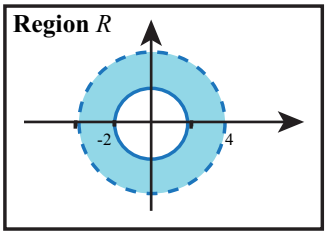












1. Graph the point P, $(r, \theta) = \left(-3, \frac{\pi}{3}\right)$.

2. Graph the point Q, $(r, \theta) = \left(-2, -\frac{\pi}{6}\right)$.

3. Shade the region R_1 described by $r > 6$, $\pi \leq \theta \leq \frac{3\pi}{2}$.

4. Graph the region R_2: $r < 3$.

5. Graph an wedge W_1: $\frac{\pi}{5} \leq \theta \leq \frac{7\pi}{10}$

6. Write the inequalities for r and θ that describe region R.
   $2 \leq r < 4$, $0 \leq \theta \leq 2\pi$

7. Translate rectangular coordinates $(5\sqrt{3}, -5)$ into polar coordinates.
   $\left(10, \frac{11\pi}{6}\right)$

8. Translate polar coordinates $\left(2\sqrt{2}, \frac{5\pi}{4}\right)$ into rectangular coordinates.
   $(-2, -2)$

9. Translate rectanular coordinates $(-4, 4)$ into polar coordinates.
   $\left(4\sqrt{2}, \frac{3\pi}{4}\right)$

10. Translate polar coordinates $\left(4, \frac{2\pi}{3}\right)$ into rectangular coordinates.
    $\left(-2, 2\sqrt{3}\right)$
