

Unit Circle and Vectors

Directions: Show all work neatly on this paper.

1. Convert to degrees. No decimals.

a. $\frac{11\pi}{6}$

b. $\frac{\pi}{2}$

c. $\frac{5\pi}{12}$

d. $\frac{2\pi}{3}$

2. Convert to radians. No decimals.

a. 270°

b. 100°

c. 50°

d. 315°

3. Write the unit circle ordered pair for each angle. No decimals.

a. 150°

b. $\frac{\pi}{3}$

c. 210°

d. $\frac{5\pi}{4}$

4. $A(6, -4)$ and $B(-1, 5)$ form vector \overline{BA} . Round answers to tenths.

a. Write \overline{BA} in component form.

b. Find the direction of \overline{BA} .

c. Find $|\overline{BA}|$.

5. Given: $\vec{u}\langle 9, -12 \rangle$. Find the magnitude and direction of \vec{u} . Round answers to tenths.

6. Given: $B(7, -53)$ and $C(-28, 9)$. Write the coordinates of the image of \overline{BC} under the translation $\vec{v}\langle -17, 25 \rangle$ followed by $\vec{u}\langle 31, -6 \rangle$.

7. Graph the equation $y^2 + 2x + x^2 = 24y - 120$.