Example #3c p. 3 Ch. 9

Write w in terms of <a, b> if

$|w| = 10$ and $\theta = 340°$

Notice the reference $\angle$ & Quadrant

- Reference $\angle$ is $360° - 340° = 20°$ in QIV

  sine is negative $\sin 20° \approx -0.34$

  &

  cosine is positive $\cos 20° \approx 0.94$

□

Find the horizontal component

$|w| = 10$ and $\theta = 340°$

- The horizontal component is the x component which is given by $a = |w| \cos \theta$

$$a = 10 \bullet 0.94 \approx 9.4$$

Find the vertical component
$|w| = 10$ and $\theta = 340°$

- The vertical component is the y component which is given by $b = |w| \sin \theta$

$$b = 10 \bullet -0.34 \approx -3.4$$

Thus, w is

$$w \approx \langle 9.4, -3.4 \rangle$$

Notice: A few more decimals would reveal <9.3969, -3.4202>.