Exercise 38

For the following exercises, perform the indicated operation and express the result as a simplified complex number.

$$-\sqrt{-4} - 4\sqrt{-25}$$

Solution

Use the fact that $i = \sqrt{-1}$.

$$-\sqrt{-4} - 4\sqrt{-25}$$

$$-\sqrt{4(-1)} - 4\sqrt{25(-1)}$$

$$-\sqrt{4}\sqrt{-1} - 4\sqrt{25}\sqrt{-1}$$

$$-2i - 4(5)i$$

$$-2i - 20i$$

$$-22i$$