

Know there is a complex number  $i$  such that  $i^2 = -1$ , and every complex number has the form  $a + bi$  with  $a$  and  $b$  real.

**Imaginary Numbers:** Write square roots of negative numbers in terms of  $i$ .



Express each number in terms of  $i$  and simplify. Show your work.

1.  $\sqrt{-4}$

2.  $\sqrt{-49}$

3.  $\sqrt{-36}$

4.  $-\sqrt{-25}$

5.  $-\sqrt{-64}$

6.  $-\sqrt{-9}$

7.  $\frac{3}{4}\sqrt{-144}$

8.  $\frac{5}{8}\sqrt{-64}$

9.  $5\sqrt{-81}$

10.  $\sqrt{-\frac{16}{36}}$

11.  $3\sqrt{-\frac{25}{81}}$

12.  $\frac{5}{9}\sqrt{-\frac{64}{25}}$

13.  $\sqrt{-6}$

14.  $-\sqrt{-28}$

15.  $3\sqrt{-40}$