

Practice 10.7

Name(s) \_\_\_\_\_

Write in terms of  $i$ .

1)  $\sqrt{-9}$

Multiply or divide.

2)  $\sqrt{2} \cdot \sqrt{-8}$

3)  $\frac{\sqrt{-24}}{\sqrt{-2}}$

Perform the indicated operation. Write the result in the form  $a + bi$ .

4)  $(3 + 9i) - (-2 + i)$

5)  $(5 - 2i) + (-5 + 2i)$

6)  $2i(2 - 8i)$

7)  $(\sqrt{7} + 5i)(\sqrt{7} - 5i)$

8)  $(2 - 9i)^2$

9)  $\frac{3}{5i}$

10)  $\frac{6}{3 + i}$

11)  $\frac{3 + 3i}{7 - 3i}$

Find the power of i.

12)  $i^9$

13)  $i^{30}$

## Answers

$$1) 3i$$

$$2) 4i$$

$$3) 2\sqrt{3}$$

$$4) 5 + 8i$$

$$5) 0$$

$$6) 16 + 4i$$

$$7) 32$$

$$8) -77 - 36i$$

$$9) \frac{-3i}{5}$$

$$10) \frac{9}{5} - \frac{3}{5}i$$

$$11) \frac{6}{29} + \frac{15}{29}i$$

$$12) i^1 = i$$

$$13) i^2 = -1$$