



Name: \_\_\_\_\_

Period: \_\_\_\_\_

**SM2 4.6 Complex Numbers****Express in terms of  $i$ .**

1.  $\sqrt{-81}$

2.  $\sqrt{-45}$

3.  $\sqrt{-70}$

4.  $-\sqrt{-121}$

5.  $-\sqrt{-72}$

6.  $3\sqrt{-49}$

7.  $-2\sqrt{-28}$

8.  $-5\sqrt{-48}$

**Add or subtract and simplify. If the answer is imaginary, write it in the form  $a + bi$ .**

9.  $(3+7i)+(2-4i)$

10.  $(-9+2i)-(-4-i)$

11.  $(-6+i)-(7+3i)$

12.  $(-5-2i)+(-3+8i)$

13.  $(2-13i)+(14+13i)$

14.  $3i-(7+10i)$

15.  $7-(7-5i)$

16.  $(-10+9i)+(22-7i)$

17.  $(-3-17i)-(-2-8i)$

18.  $(-4-10i)+(-6-5i)$

**Multiply and simplify. If the answer is imaginary, write it in the form  $a + bi$ .**

19.  $\sqrt{-25} \cdot \sqrt{-4}$

20.  $\sqrt{-2} \cdot \sqrt{-32}$

21.  $\sqrt{-30} \cdot \sqrt{5}$

22.  $\sqrt{-9} \cdot -\sqrt{-44}$

23.  $-\sqrt{70} \cdot \sqrt{-10}$

24.  $-\sqrt{-63} \cdot -\sqrt{-7}$

25.  $7i \cdot 3i$

26.  $-8i \cdot 9i$

27.  $(-2i)(-i)$

28.  $3i(7-3i)$

29.  $(-5i)(6-i)$

30.  $6(8-5i)$

31.  $(3-6i)(1-i)$

32.  $(3+7i)(2+5i)$

33.  $(1-7i)(-6+8i)$

34.  $(8+6i)^2$

35.  $(9-2i)^2$

36.  $(-6-5i)^2$

37.  $(3+i)(3-i)$

38.  $(5+4i)(5-4i)$

39.  $(-4+7i)(-4-7i)$