

**SHOW ALL WORK.**

Complete Parts A & B OR Parts B & C

**PART A:**

**Solve the equation.**

1.  $x^2 = -28$

2.  $z^2 + 8 = 4$

**Write the expression as a complex number in standard  $(a + bi)$  form.**

3.  $(6 - 3i) + (5 + 4i)$

4.  $(9 + 8i) + (8 - 9i)$

5.  $(-2 - 6i) - (4 - 6i)$

6.  $6i(3 + 2i)$

7.  $-8 - (3 + 2i) - (9 - 4i)$

**PART B:**

**Solve the equation.**

8.  $r^2 = -624$

9.  $s^2 - 22 = -112$

10.  $9 - 4y^2 = 57$

11.  $6t^2 + 5 = 2t^2 + 1$

12.  $-5(n - 3)^2 = 10$

Write the expression as a complex number in standard ( $a + bi$ ) form.

13.  $(-1+i)-(7-5i)$

14.  $(8+20i)-(-8+12i)$

15.  $(8-5i)-(-11+4i)$

16.  $-i(4-8i)$

17.  $(5-7i)(-4-3i)$

18.  $(-2+5i)(-1+4i)$

19.  $(-1-5i)(-1+5i)$

20.  $\frac{7i}{8+i}$

21.  $\frac{6i}{3-i}$

22.  $\frac{-2-5i}{3i}$

23.  $\frac{4+9i}{12i}$

24.  $\frac{7+4i}{2-3i}$

25.  $\frac{-1-6i}{5+9i}$

26.  $(3+2i)+(5-i)+6i$

27.  $5i(3+2i)(8+3i)$

**PART C:**

Write the expression as a complex number in standard ( $a + bi$ ) form.

28.  $(1-9i)(1-4i)(4-3i)$

29.  $\frac{(5-2i)+(5+3i)}{(1+i)-(2-4i)}$

30.  $\frac{a+bi}{c+di}$

### Homework 3.5

1.  $\pm 2i\sqrt{7}$    2.  $\pm 2i$    3.  $11+i$    4.  $17-i$    5.  $-6$    6.  $-12+18i$    7.  $-20+2i$

8.  $\pm 4i\sqrt{39}$    9.  $\pm 3i\sqrt{10}$    10.  $\pm 2i\sqrt{3}$    11.  $\pm i$    12.  $3\pm i\sqrt{2}$    13.  $-8+6i$    14.  $16+8i$

15.  $19-9i$    16.  $-8-4i$    17.  $-41+13i$    18.  $-18-13i$    19.  $26$    20.  $\frac{7}{65} + \frac{56}{65}i$    21.  $-\frac{3}{5} + \frac{9}{5}i$

22.  $-\frac{5}{3} + \frac{2}{3}i$    23.  $\frac{3}{4} - \frac{1}{3}i$    24.  $\frac{2}{13} + \frac{29}{13}i$    25.  $-\frac{59}{106} - \frac{21}{106}i$    26.  $8+7i$    27.  $-125+90i$

28.  $-179+53i$

29.  $-\frac{5}{26} - \frac{51}{26}i$

30.  $\frac{ac+bd+(bc-ad)i}{c^2+d^2}$