1. Find real numbers *a* and *b* such that the equation is true.

$a + bi = -8 + 18i$

a. $a = -12, b = 22$
b. $a = -10, b = 20$
c. $a = -11, b = 21$
d. $a = -9, b = 19$
e. $a = -8, b = 18$

7. Write the complex number in standard form.

$\sqrt{-36}$

a. $\sqrt{37}i$
b. $-\sqrt{39}i$
c. $6i$
d. $\sqrt{39}i$
e. $-6i$

11. Write the complex number in standard form.

$\sqrt{-0.0001}$

a. $-0.01i$
b. $-0.0001i$
c. $3.01i$
d. $0.01i$
e. $0.0001i$

12. Perform the addition or subtraction and write the result in standard form.

$(7 + i) + (5 - 5i)$

a. $16 - 8i$
b. $15 - 7i$
c. $12 - 4i$
d. $14 - 6i$

e. $13 - 5i$

17. Perform the operation and write the result in standard form.

$(1+i)(9-8i)$

a. $18+i$
b. $17+i$
c. $19+i$
d. $21+i$
e. $20+i$

21. Perform the operation and write the result in standard form.

$(8-7i)^2$

a. $15-112i$
b. $-15-112i$
c. $15+112i$
d. $17-112i$
e. $-15+112i$

29. Write the quotient in standard form.

$$\frac{11}{1-i}$$

a. $\frac{11}{2+i}$
b. $\frac{11}{2}i$
c. $\frac{11}{2-i}$
d. $\frac{11}{2}+\frac{11}{2}i$
e. $\frac{11}{2}-\frac{11}{2}i$

36. Write the complex number in standard form.

$\left(\sqrt{-48}\right)^2$

a. $-\sqrt{48}$
b. -48
c. $\sqrt{23}$
d. 48
e. $\sqrt{48}$

39. Solve the equation and write complex solutions in standard form.

$x^2+10x+29=0$

a. $x=10-2i, 10+2i$
b. $x=-2-5i, -2+5i$
c. $x=-5+4i, -5-4i$
d. $x=-5-2i, -5+2i$
e. $x=-2+25i, -2-25i$

42. Simplify the complex number and write it in standard form.

$3i^2-7i^3$

a. $-7+3i$
b. $3+7i$
c. $-3-7i$
d. $-3+7i$
e. $3-7i$

49. Raise the complex number to the fourth power.

$4i$

a. 256
b. –64
c. 64
d. 16
e. –256

55. Do the operation and express the answer in $a + bi$ form.

$$\frac{-19}{i^{36}}$$

a. $19i$
b. $-19i$
c. $-190i$
d. -19
e. 19

60. Do the operation and express the answer in $a + bi$ form. Use fractions in your answer.

$$\frac{1}{9+i}$$