Name : _____

Conjugate of Complex Numbers

Sheet 1

Write the conjugate of each complex number.

1) $\frac{2+\sqrt{-9}}{4}$ _____

2) $5 - 7i$ _____

3) $8i$ _____

4) $7(3 + 6i)$ _____

5) $\sqrt{11}$ _____

6) $\frac{1-i}{3}$ _____

7) $-\frac{i}{5}$ _____

8) $-i - 4$ _____

9) $-2\sqrt{-2} + 10$ _____

10) If $z = \overline{z}$, then the imaginary part of the complex number z is

a) 0 b) 2 c) 1 d) –1

11) If $z = -1 - \sqrt{-1}$, then the conjugate of z is

a) $1 - i$ b) $-1 + i$ c) $1 + i$ d) $-1 - i$

12) If $\overline{z} = i$, then $\overline{\overline{z}} + z$ is

a) $2i$ b) 0 c) i d) $-2i$

Name : _____

Answer key

Conjugate of Complex Numbers

Sheet 1

Write the conjugate of each complex number.

1) $\frac{2+\sqrt{-9}}{4}$ — **$\frac{1}{2} - \frac{3}{4}i$**

2) $5 - 7i$ — **$5 + 7i$**

3) $8i$ — **$-8i$**

4) $7(3 + 6i)$ — **$21 - 42i$**

5) $\sqrt{11}$ — **$\sqrt{11}$**

6) $\frac{1-i}{3}$ — **$\frac{1}{3} + \frac{1}{3}i$**

7) $-\frac{i}{5}$ — **$\frac{1}{5}i$**

8) $-i - 4$ — **$-4 + i$**

9) $-2\sqrt{-2} + 10$ — **$10 + 2\sqrt{2}\,i$**

10) If $z = \overline{z}$, then the imaginary part of the complex number z is

a) 0 b) 2 c) 1 d) −1

11) If $z = -1 - \sqrt{-1}$, then the conjugate of z is

a) $1 - i$ b) $-1 + i$ c) $1 + i$ d) $-1 - i$

12) If $\overline{z} = i$, then $\overline{\overline{z}} + z$ is

a) $2i$ b) 0 c) i d) $-2i$