

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  $z = \bar{z}$ , 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  $\bar{z} = i$ , then  $\overline{\bar{z}} + z$  is

a)  $2i$

b) 0

c)  $i$

d)  $-2i$

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

## Answer key

Sheet 1

### Conjugate of Complex Numbers

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  $z = \bar{z}$ , 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  $\bar{z} = i$ , then  $\overline{\bar{z}} + z$  is

a)  $2i$

b) 0

c)  $i$

~~d)~~  $-2i$