Bellwork Alg 2A Friday, March 17, 2017

Write each as a Complex Number in Standard Form $(a + bi)$.

1. $10 + \sqrt{-49}$

2. $3\sqrt{-50} + 1$

Simplify each.

3. $-2\sqrt{-196}$

4. $11\sqrt{-294}$

5. $(8 - \sqrt{-121}) - (-3 + \sqrt{-25})$

6. $6(-2 + \sqrt{-48}) + 5(1 - \sqrt{-27})$

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ANSWERS

Write each as a Complex Number in Standard Form $(a + bi)$.

1. $10 + \sqrt{-49}$

$10 + 7i$

2. $3\sqrt{-50} + 1$

$= 3\sqrt{-1 \cdot 25 \cdot 2} + 1$

$= 3 \cdot 5i\sqrt{2} + 1$

$= 15i\sqrt{2} + 1 \rightarrow 1 + 15i\sqrt{2}$

Simplify each.

3. $-2\sqrt{-196}$

$-2 \cdot 14i$

$= -28i$

4. $11\sqrt{-294}$

$= 11\sqrt{-1 \cdot 49 \cdot 6}$

$= 11 \cdot 7i\sqrt{6} = 77i\sqrt{6}$

5. $(8 - \sqrt{-121}) - (-3 + \sqrt{-25})$

$= (8 - 11i) - (-3 + 5i)$

$= 11 - 16i$

6. $6(-2 + \sqrt{-48}) + 5(1 - \sqrt{-27})$

$\sqrt{-16 \cdot 3}$ $\sqrt{-9 \cdot 3}$

$= 6(-2 + 4i\sqrt{3}) + 5(1 - 3i\sqrt{3})$

$= -12 + 24i\sqrt{3} + 5 - 15i\sqrt{3}$

$= -7 + 9i\sqrt{3}$