Algebra II Practice N.CN.A.3: Division of Complex Numbers
NAME:_____

1. Divide and simplify to the form $a + bi$: $\dfrac{4 - 5i}{2 + 4i}$

   [A] $-\dfrac{3}{5} - \dfrac{13}{10}i$ [B] $\dfrac{7}{5} + \dfrac{3}{10}i$

   [C] $2 - \dfrac{5}{4}i$ [D] none of these

5. $\dfrac{-2 + 10i}{-6 - i}$

6. Find the mean of this set of numbers:
   $3i, \; -2i, \; 5 + 7i, \; 4 + 2i, \; 1 - 5i$

2. Divide and simplify to the form $a + bi$: $\dfrac{4 + 4i}{2 - 9i}$

   [A] $\dfrac{44}{85} - \dfrac{28}{85}i$ [B] $-\dfrac{28}{85} + \dfrac{44}{85}i$

   [C] $2 + \dfrac{4}{9}i$ [D] none of these

Simplify:

7. $\dfrac{2 + 3i - 3i^3}{1 - i}$

   [A] $2 + 4i$ [B] $-2 + 4i$
   [C] $2 - 4i$ [D] $-2 - 4i$

3. Divide and simplify to the form $a + bi$: $\dfrac{2 + i}{8 - 8i}$

   [A] $\dfrac{3}{16} - \dfrac{1}{16}i$ [B] $\dfrac{1}{16} + \dfrac{3}{16}i$

   [C] $\dfrac{1}{4} + \dfrac{1}{8}i$ [D] none of these

8. $\dfrac{1 - 2i + i^3}{-1 + i}$

9. $\dfrac{\sqrt{-3}\sqrt{-3} - \sqrt{-64} + \sqrt{-9}\sqrt{-9}\sqrt{9}}{7 + 6i^3}$

Divide.

4. $\dfrac{-2 - 4i}{6 - 2i}$

10. $\dfrac{5i^2 + 4i^4 + 3i^3}{4 - 2i^3 + \sqrt{-16}}$

[1] A

[2] B

[3] B

[4] $\dfrac{-1-7i}{10}$

[5] $\dfrac{2-62i}{37}$

[6] $2+i$

[7] B

[8] $-2+i$

[9] $\dfrac{-162-236i}{85}$

[10] $\dfrac{-11-3i}{26}$