Name: _____

N.CN.A.2: Square Roots of Negative Numbers 1b

1 In simplest form, $\sqrt{-300}$ is equivalent to

2 The expression $\frac{3}{4}\sqrt{-80}$ is equivalent to

3 The expression $\sqrt{-180x^{16}}$ is equivalent to

4 The expression $\frac{\sqrt{-50}}{\sqrt{2}}$ is equivalent to

5 Expressed in simplest form, $\frac{\sqrt{-20}}{\sqrt{5}}$ is equivalent to

6 Expression in simplest form, $\frac{\sqrt{-36}}{-\sqrt{4}}$ is equivalent to

7 The expression $\frac{\sqrt{-36}}{-\sqrt{36}}$ is equivalent to

8 Simplify: $\sqrt{-9} \times \sqrt{-16}$

9 Simplify: $\sqrt{-3} \times \sqrt{-4}$

10 What is the product of $5 + \sqrt{-36}$ and $1 - \sqrt{-49}$, expressed in simplest $a + bi$ form?

11 Express the product of $(2 + \sqrt{-9})$ and $(3 - \sqrt{-16})$ in the form $a + bi$.

N.CN.A.2: Square Roots of Negative Numbers 1b
Answer Section

1 ANS:
$10i\sqrt{3}$
$\sqrt{-300} = \sqrt{100}\sqrt{-1}\sqrt{3}$

REF: 061006a2

2 ANS:
$3i\sqrt{5}$
$\frac{3}{4}\sqrt{-1}\sqrt{16}\sqrt{5} = 3i\sqrt{5}$

REF: 061601a2

3 ANS:
$6x^8 i\sqrt{5}$
$\sqrt{-180x^{16}} = 6x^8 i\sqrt{5}$

REF: 081524a2

4 ANS:
$5i$
$\frac{\sqrt{-50}}{\sqrt{2}} = \frac{\sqrt{2}\sqrt{25}\sqrt{-1}}{\sqrt{2}} = 5i$

REF: 080816b

5 ANS:
$2i$
$\frac{\sqrt{-20}}{\sqrt{5}} = \frac{\sqrt{5}\sqrt{4}\sqrt{-1}}{\sqrt{5}} = 2i$

REF: 080905b

6 ANS:
$-3i$

REF: 068830siii

7 ANS:
$-i$

REF: 069616siii

8 ANS:
-12

REF: 039413al

9 ANS:
$-2\sqrt{3}$

REF: 099511al

10 ANS:
$47 - 29i$
$(5+\sqrt{-36})(1-\sqrt{-49}) = (5+6i)(1-7i) = 5-35i+6i-42i^2 = 5-29i-42(-1) = 47-29i$

REF: 080314b

11 ANS:
$18 + i$

REF: 068102siii