Name: _____

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

1 What is the sum of $\sqrt{-2}$ and $\sqrt{-18}$?
1) $5i\sqrt{2}$
2) $4i\sqrt{2}$
3) $2i\sqrt{5}$
4) $6i$

2 The sum of $\sqrt{-27}$ and $\sqrt{-12}$ is
1) $-5\sqrt{3}$
2) $i\sqrt{39}$
3) $5i\sqrt{3}$
4) $3i\sqrt{5}$

3 The sum of $\sqrt{-18}$ and $\sqrt{-72}$ is
1) $6i$
2) $36i$
3) $3\sqrt{10}$
4) $9i\sqrt{2}$

4 The sum of $3\sqrt{-8}$ and $4\sqrt{-50}$ is
1) $12\sqrt{-58}$
2) $26i\sqrt{2}$
3) $7i\sqrt{58}$
4) $7i\sqrt{2}$

5 The expression $3\sqrt{-18}+5\sqrt{-12}$ is equivalent to
1) $9i\sqrt{2}+10i\sqrt{3}$
2) $6i\sqrt{2}+7i\sqrt{3}$
3) $19i\sqrt{5}$
4) $-90\sqrt{6}$

6 Express $\sqrt{-2}+\sqrt{-18}$ as a monomial in terms of i.

7 Express $\sqrt{-8}+\sqrt{-18}$ as a monomial in terms of i.

8 If $f(x)=\sqrt{3x}+\sqrt{12x}$, express $f(-3)$ as a monomial in terms of i.

9 Express in terms of i the sum of $\sqrt{-25}+2\sqrt{-36}$.

10 Express the sum of $\sqrt{-64}+2\sqrt{-16}$ in terms of i.

11 Express the sum of $\sqrt{-25}$ and $4\sqrt{-9}$ in terms of i.

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12 Express the sum of $\sqrt{-81}$ and $3\sqrt{-25}$ as a monomial in terms of i.

13 Express the sum of $\sqrt{-64}$ and $3\sqrt{-4}$ as a monomial in terms of i.

14 Express $\sqrt{-27} + 7\sqrt{-12}$ as a monomial in terms of i.

15 Express $4\sqrt{-49} + 3\sqrt{-16}$ as a monomial in terms of i.

16 Express the sum of $4\sqrt{-12}$ and $3\sqrt{-27}$ in simplest radical form, in terms of i.

17 Express the sum of $2\sqrt{-49}$ and $-3\sqrt{-16}$ as a monomial in terms of i.

18 Express the sum of $2\sqrt{-9}$ and $7\sqrt{-64}$ in simplest form in terms of i.

19 Express the sum of $2\sqrt{-50}$ and $6\sqrt{-162}$ as a monomial in terms of i.

20 Express $-3i + \frac{1}{2}\sqrt{-64}$ as a monomial in terms of i.

21 Express $\sqrt{-48} + 3.5 + \sqrt{25} + \sqrt{-27}$ in simplest $a + bi$ form.

22 What is the sum of $2 - \sqrt{-4}$ and $-3 + \sqrt{-16}$ expressed in $a + bi$ form?
1) $-1 + 2i$
2) $-1 + i\sqrt{20}$
3) $-1 + 12i$
4) $-14 + i$

23 Express the sum of $(2 - \sqrt{-4})$ and $(-3 + \sqrt{-16})$ in $a + bi$ form.

24 Express the sum of $3 + \sqrt{-49}$ and $2 + \sqrt{-121}$ in simplest $a + bi$ form.

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

1 ANS: 2
$\sqrt{-2} + \sqrt{-18} = i\sqrt{2} + 3i\sqrt{2} = 4i\sqrt{2}$

REF: 060215b
2 ANS: 3 REF: 088718siii
3 ANS: 4 REF: 068716siii
4 ANS: 2 REF: 069820siii
5 ANS: 1 REF: 060117siii
6 ANS:
$4i\sqrt{2}$

REF: 060013siii
7 ANS:
$5i\sqrt{2}$

REF: 069003siii
8 ANS:
$9i$

REF: 089701siii
9 ANS:
$17i$

REF: 018416siii
10 ANS:
$16i$

REF: 068402siii
11 ANS:
$17i$

REF: 089303siii
12 ANS:
$24i$

REF: 089501siii
13 ANS:
$14i$

REF: 069705siii
14 ANS:
$17i\sqrt{3}$

REF: 080207siii

15 ANS:
$40i$

REF: 069502siii

16 ANS:
$17i\sqrt{3}$

REF: 011025b

17 ANS:
$2i$

REF: 019903siii

18 ANS:
$62i$

REF: 089903siii

19 ANS:
$64i\sqrt{2}$

REF: 010113siii

20 ANS:
i

REF: 010307siii

21 ANS:
$8.5 + 7i\sqrt{3}$. $\sqrt{-48} + 3.5 + \sqrt{25} + \sqrt{-27} = 4i\sqrt{3} + 8.5 + 3i\sqrt{3} = 8.5 + 7i\sqrt{3}$

REF: 080422b

22 ANS: 1
$(2 - \sqrt{-4}) + (-3 + \sqrt{-16}) = 2 - 2i + -3 + 4i = -1 + 2i$

REF: 060401b

23 ANS:
$-1 + 2i$

REF: 019009siii

24 ANS:
$5 + 18i$

REF: 010002siii