Algebra 2 Name_____

# Review ~~Quiz:~~ Operations w/Radicals & Complex Numbers; Inverse Functions

**Simplify.**

1) $3\sqrt{45} - \sqrt{18} - \sqrt{2}$

2) $-3\sqrt{2} + 2\sqrt{45} + 2\sqrt{8}$

3) $3\sqrt{6} - 2\sqrt{5} + 2\sqrt{5}$

4) $-\sqrt{5} - 3\sqrt{27} + 2\sqrt{20}$

5) $\sqrt{20} \cdot \sqrt{20}$

6) $\sqrt{10}(\sqrt{2} + 3)$

7) $4\sqrt{15}(3 + \sqrt{6})$

8) $(\sqrt{2} + 2\sqrt{3})(2\sqrt{5} + \sqrt{3})$

9) $\dfrac{\sqrt{2}}{\sqrt{8}}$

10) $\dfrac{5 + \sqrt{5}}{2\sqrt{25}}$

11) $\dfrac{3}{\sqrt{2} - \sqrt{5}}$

12) $\dfrac{-3 + \sqrt{5}}{\sqrt{2} - 4}$

13) $(8 - i) + (6 - 3i)$

14) $(-7 - 7i) - (-8 - i)$

15) $(-6 + 6i)^2$

16) $(2 + 5i)^2$

17) $\dfrac{2}{-i}$

18) $\dfrac{8 - 6i}{8i}$

19) $\dfrac{3}{-9 + 2i}$

20) $\dfrac{-10 + 7i}{-9 + 5i}$

**State if the given functions are inverses. Justify your answer with your work.**

21) $f(n) = -\dfrac{5}{2}n - 5$

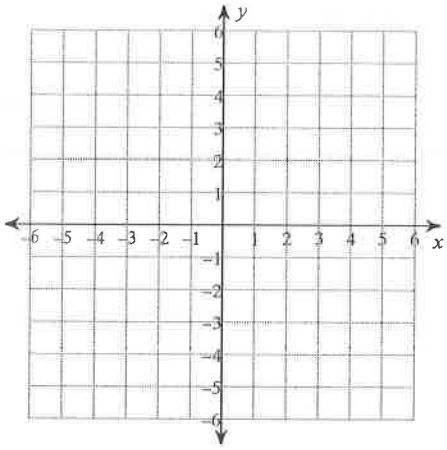
$g(n) = \dfrac{15 - 2n}{5}$

22) $g(n) = \sqrt[3]{n} - 3$

$f(n) = (n + 3)^3$

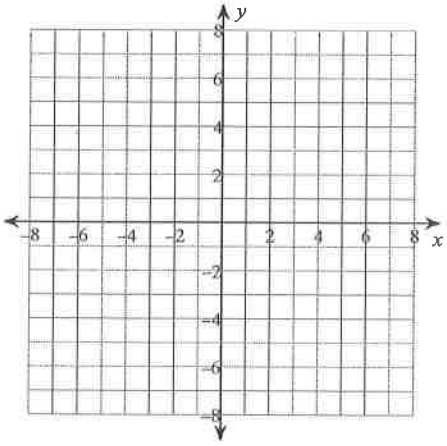
**Sketch the graph of each line. Find the inverse function. Sketch the graph of the inverse function.**

23) $y = -\frac{7}{4}x + 5$




**Sketch the graph of each function. Find the inverse function. Sketch the graph of the inverse function.**

24) $y = \sqrt{x - 2}$




**Sketch the graph of the function. Find the inverse function. Sketch the graph of the inverse function.**

25) $y = -(x - 1)^2 + 4$