Name _____ Date _____ Pd _____

**5.6 Inverse Functions DAY TWO CYU**

| CONCEPTS | BASIC | INTERMEDIATE | ADVANCED |
|---|---|---|---|
| Determining if functions are inverses | | 1 - 6 | |
| Find the inverse of the function | 7, 10 | 8, 11 | 9, 12 |
| Graphing functions & inverses | 10 | 11 | 12 |
| Modeling with mathematics | | 13 | |

*State if the given functions are inverses.*

1. $g(x) = 4 - \dfrac{3}{2}x$

   $f(x) = \dfrac{1}{2}x + \dfrac{3}{2}$

2. $f(n) = \dfrac{-16 + n}{4}$

   $g(n) = 4n + 16$

3. $g(n) = \dfrac{-12 - 2n}{3}$

   $f(n) = \dfrac{-5 + 6n}{5}$

4. $f(n) = 2(n - 2)^3$

   $g(n) = \dfrac{4 + \sqrt[3]{4n}}{2}$

5. $f(n) = -(n + 1)^3$

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

6. $g(x) = -\dfrac{2}{x} - 1$

   $f(x) = -\dfrac{2}{x + 1}$

*Find the inverse of each function.*

7. $g(x) = \dfrac{1}{x} - 2$
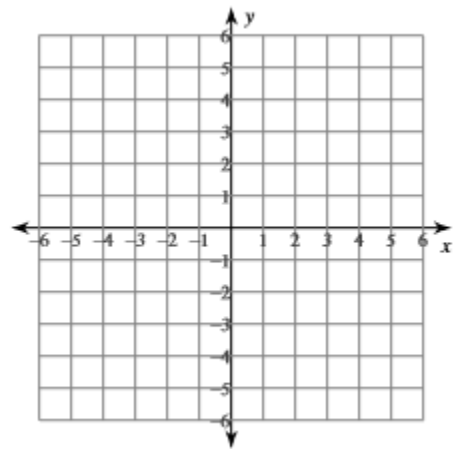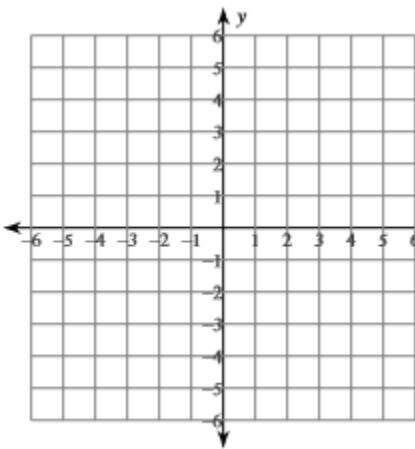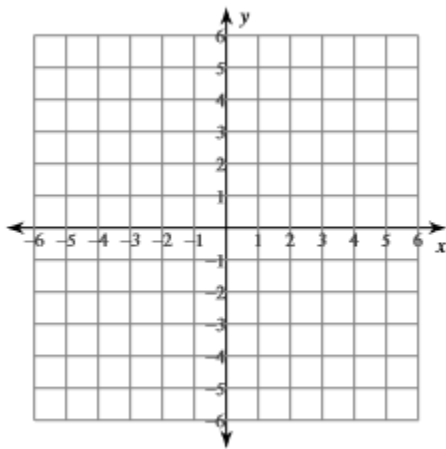
8. $g(x) = \dfrac{7x + 18}{2}$

9. $h(x) = 2x^3 + 3$

*Find the inverse of each function. Then graph the functions and its inverse. Label both.*

10. $f(x) = -1 - \dfrac{1}{5}x$

11. $g(x) = \dfrac{-x-5}{3}$

12. $f(x) = -2x^3 + 1$





13. **MODELING WITH MATHEMATICS** Elastic bands can be used for exercising to provide a range of resistance. The resistance R (in pounds) of a band can be modeled by $R = \dfrac{3}{8}L - 5$, where L is the total length (in inches) of the stretched band. Find the inverse function. What length of the stretched band provides 19 pounds of resistance?

unstretched

stretched

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**CYU Reflection:** *How far can you go: basic, intermediate, or advanced?*
**Rate your mastery level!**
How confident are you with the skills this CYU covered? Circle the score you would give yourself.

| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |

Basic     Intermediate     Advanced   Solved ALL!