Name _____ 5.2 Practice

FINDING THE INVERSE OF A FUNCTION

(a) Find the inverse and (b) determine whether the inverse is a function.

1. $\{(2,6), (-3,6), (4,9), (1,10)\}$ 2. $\{(1,2), (2,8), (3,18), (4,32)\}$

VERIFYING INVERSE FUNCTIONS

Verify that the functions *f* and *g* are inverses of each other.

3. $ \begin{aligned} f(x) &= x^3 - 8 \\ g(x) &= \sqrt[3]{x+8} \end{aligned} $ 4. $ \begin{aligned} f(x) &= (x-2)^2, x \ge 2 \\ g(x) &= \sqrt{x} + 2 \end{aligned} $	5.	$f(x) = \frac{3}{2}$ $g(x) = \frac{3}{1}$	$\frac{x-5}{x+3}$ $\frac{x+5}{-2x}$
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GRAPHING THE INVERSE FUNCTION

The graph of a one-to-one function f is given. Draw the graph of the inverse function f^{1} .



FINDING THE INVERSE FUNCTION f¹

The function f is one-to-one. Find its inverse and check your answer. State the domain and range of f and f^{1} .

9.
$$f(x) = \frac{2}{3+x}$$
 10. $f(x) = \frac{-2x}{x-1}$

11.
$$f(x) = \frac{2x+3}{x+2}$$
 12. $f(x) = \frac{2x}{3x+2}$

13.
$$f(x) = x^3 - 1$$

14. $f(x) = x^2 + 9, x \ge 0$

15.
$$f(x) = \frac{x^2 + 3}{3x^2}; x > 0$$

16. The head circumference *C* of a child is related to the height *H* of the child (both in inches) through the function H(C) = 2.15C - 10.53.

a) Express the head circumference *C* as a function of height *H*.

b) Predict the head circumference of a child who is 26 inches tall.

17. The demand for corn obeys the equation p(x)=300-50x, where *p* is the price per bushel (in dollars) and *x* is the number of bushels produced, in millions. Express the production amount *x* as a function of the price *p*.