

**DIRECTIONS:** Determine whether or not  $f(x)$  &  $g(x)$  are inverse functions.

1.  $f(x) = x + 5$  ;  $g(x) = x - 5$

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

3.  $f(x) = \frac{1}{3}x^4 + 2, x \geq 0$  ;  $g(x) = \sqrt[4]{3x - 6}$

**DIRECTIONS:** Find  $f^{-1}(x)$  [the inverse function of  $f(x)$ ].

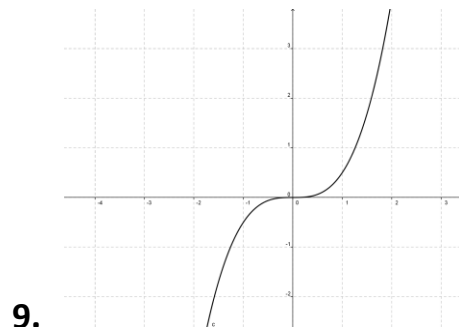
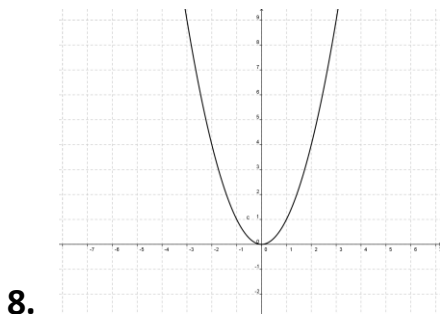
4.  $f(x) = 1 - 4x$

5.  $f(x) = x^2 + 7, x \geq 0$

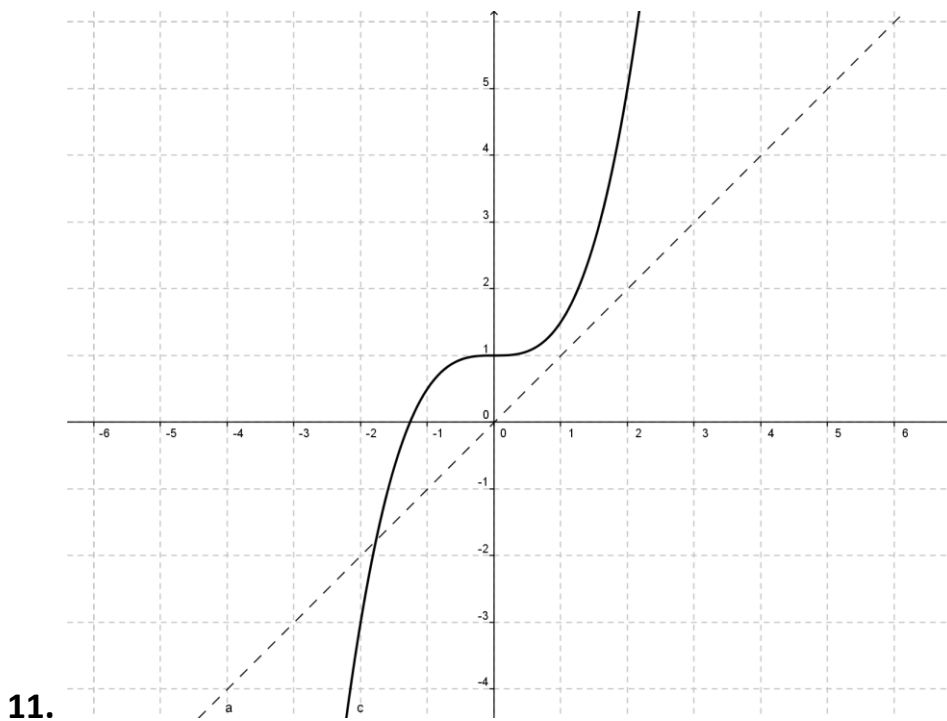
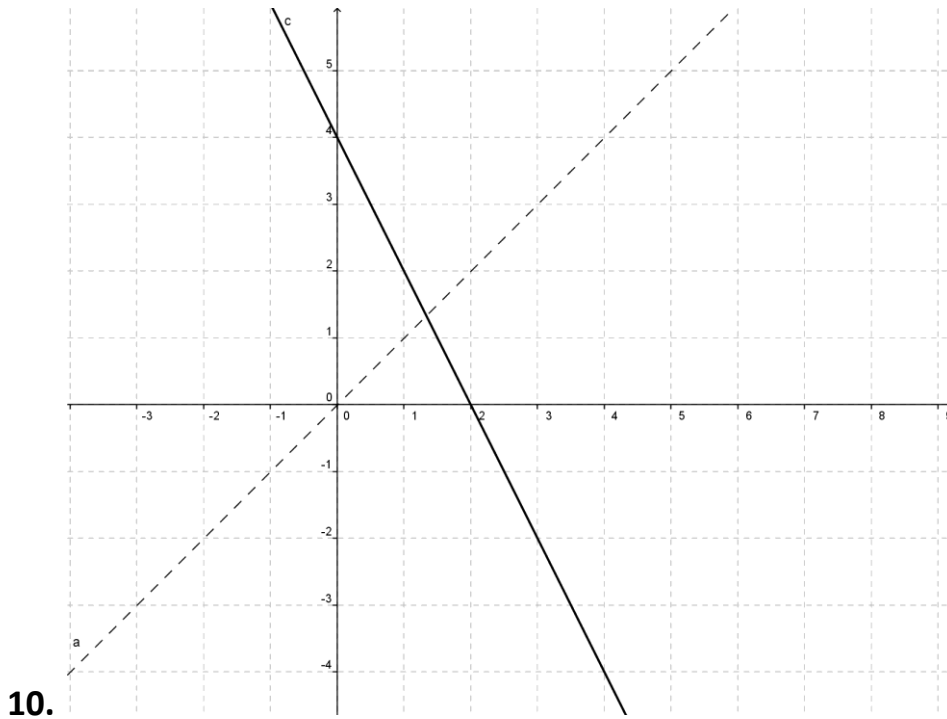
6.  $f(x) = \sqrt{4 - x}$

7.  $f(x) = \sqrt[3]{5x - 3}$

**DIRECTIONS:** Use the horizontal-line test to determine whether or not the function  $f$  has an inverse function.



**DIRECTIONS:** Sketch the inverse of  $f$  on the graph. Use the axis of symmetry ( $y = x$ ) and/or a reverse chart of  $x$  and  $y$ .



**DIRECTIONS:** Determine whether or not the given value for  $x$  is a solution of the equation.

**12.**  $\sqrt{2x-1} + 2 = 5; \quad x = 5$

**13.**  $\sqrt{1-x} + 3 = 5; \quad x = -3$

**14.**  $\sqrt[3]{x+1} - 3 = -2; \quad x = 0$

**DIRECTIONS:** Solve for  $x$ .

**15.**  $(2x)^{3/4} = 8$

**16.**  $2x^{5/3} = -64$

**17.**  $-(3x+4)^{1/2} + 3 = 0$