If $f^{-1}(x) = \frac{ax+b}{cx+d}$ is the investe function of $f(x) = \frac{4x+3}{1-x}$ then $a + b + c + d =$	
A) 3 B) 9	1-1 and
C) 5	Inverse
D) 2	Functions.
E) 7	
If $f(x) = 1 - \sqrt{x+2}$ and $f^{-1}(x) = x^2 + ax + b, x \le 1$ , then $a + b =$	
A) -3	
B) 2	1-1 and
C) 4	Inverse Functions.
D) -4	
E) 0	
If $f^{-1}(x) = \sqrt{x + x} + h$ is the inverse function of $f(x) = x^2 - 2x + x > 1$ then	
If $f^{-1}(x) = \sqrt{x + a} + b$ is the inverse function of $f(x) = x^2 - 2x, x \ge 1$ , then a + b =	
A) 2	1-1 and
B) -2	Inverse
C) 0	Functions.
D) 1	
E) -1	
Which one of the following is one-to-one function?	
(a) $f(x) = 2x - \sqrt{x}, x \ge 0$	
(b) $f(x) = 5$	
(c) $f(x) =  x - 3 , x \ge 1$	1-1 and Inverse
(d) $f(x) = \frac{2}{x^2}$	Functions.
(e) $f(x) = \sqrt{4 - x^2}, -2 \le x \le 2$	

## 2.8: (One-to-One Functions and Their Inverses)

Which one of the following statements is FALSE?	
A) If $f = \{(-1,2), (2,1), (5,-1)\}$ , then $f^{-1} = \{(2,-1), (1,2), (-1,2)\}$ .	
B) If f is a one to one function, then $g(x) = f(x) + 5$ is a one to one function.	1-1 and
C) If f is a one to one function then $f^{-1}$ is a one to one function	Inverse
C) If f is a one to one function then $f^{-1}$ is a one to one function. D) If $f(x) = x^2 f_{2n} x^2 f_{2n}$	Functions.
D) If $f(x) = x^2$ for all $x < 0$ , then the range of $f^{-1}$ is $(-\infty, 0)$ .	
E) If $f(x) = x + 1$ , then the domain of $f^{-1}$ is $(-\infty, \infty)$ .	
If $f(x) = x^2 - 4x$ , $x \ge 2$ , then the inverse of $f$ is	
A) $f^{-1}(x) = 2 - \sqrt{x+4}, x \ge -4$	
B) $f^{-1}(x) = 2 + \sqrt{x+4}, x \ge -4$	1-1 and
C) $f^{-1}(x) = 4 + \sqrt{x+2}, x \ge -2$	Inverse Functions.
D) $f^{-1}(x) = 4 - \sqrt{x+2}, x \ge -2$	
E) $f^{-1}(x) = 2 + \sqrt{x - 4}, x \ge 4$	
Which one of the following statements is FALSE about the function $f(x) = 2 + $	
$\sqrt{x}$ ?	
A) The domain of $f$ is $[0, \infty)$ .	1 1 and
B) The rang of $f$ is $[2, \infty)$ .	1-1 and Inverse
C) $f^{-1}(1)$ is undefined.	Functions.
D) $(f^{-1} \circ f)(-4) = -4$ .	
E) The function $f$ is one-to- one.	
If $f(x) = \frac{1}{x-1}$ , $x \neq 1$ , and $f^{-1}(x) = \frac{ax+b}{x}$ , then $a + b = \frac{ax+b}{x}$	
A) 1	
B) -1	1-1 and
C) 2	Inverse
D) 0	Functions.
E) -2	
If $f(x) = ax + b$ , $g(x) = 3x + 2$ , and $g(x) = 2f^{-1}(x)$ , then $a \cdot b$ is equal to:	1-1 and
	Inverse
	Functions.

$A) - \frac{4}{9}$	
B) $\frac{4}{9}$	
C) 3	
D) 1	
E) -3	
If $f(x) = -\sqrt{x+2} + k$ , and $f^{-1}(2) = 7$ , then $f^{-1}(3) + (f^{-1} \circ f)(2) =$	
A) 4 B) $\frac{5}{2}$ C) $\frac{11}{5}$ D) 0 E) 8	1-1 and Inverse Functions.
If $f(x) = x^2 + 2$ ; $x < 0$ , then $(f^{-1} \circ f)(-1) + f^{-1}(6) =$ A) -3 B) 3	1-1 and Inverse
C) √5 D) 2√3 E) 9	Functions.
If $h(x) = (g \circ f)(x)$ where $f(x) = \frac{3}{x-3}$ and $g(x) = \frac{2}{x}$ , then $h^{-1}(x) =$ A) $\frac{3}{2}x + 3$ B) $\frac{3}{2}x - 3$ C) $\frac{3x+2}{3x}$ D) $\frac{3x-2}{3x}$ E) $\frac{3}{x-3}$	1-1 and Inverse Functions.
Which one of the following statements is FALSE about the inverse functions? A) If $f(2) = -5$ , then $f(f^{-1}(-5)) = 2$ B) For a function to have an inverse, it must be a one-to-one function. C) If the point (a, b) lies on the graph of $f$ , then (b, a) lies on the graph of $f^{-1}$	1-1 and Inverse Functions.

D) The domain of $f$ is equal to the range of $f^{-1}$	
E) The graphs of f and $f^{-1}$ are symmetric with respect to the line $y = x$ .	
Which one of the following statements is FALSE ?	
A) The function $f(x) = x^2 + 1$ , $x < 1$ , is a one to one function.	
B) If $f(x) = 2^x$ then $f^{-1}(x) = \log_2 x$ .	1-1 and Inverse
C) If $f(x) = x$ then $f^{-1}(x) = x$ .	Functions.
D) $f(x) = 5$ is NOT a one to one function.	
E) If f is a one to one function, then $f^{-1}$ exists.	
If $f(x) = \frac{x-3}{x+4}$ , $x \neq -4$ and $f^{-1}(x) = \frac{ax+b}{cx+1}$ , then $a + b + c =$	
A) 6 B) -6	1-1 and
C) 0	Inverse Functions.
D) -8 E) 8	runctions.
·	
If $f(x) = \frac{1}{x+2}$ , $x \neq -2$ , then the graph of $f^{-1}(x)$ lies below the x-axis over the	
interval	
A) $(-\infty, 0) \cup (1/2, \infty)$	
B) $(-\infty, 0) \cup (0, \infty)$	1-1 and
	Inverse Functions.
C) $(-\infty, -2) \cup (-2, \infty)$ D) $(-\infty, -2) \cup (-2, \infty)$	
D) $(-\infty, -2) \cup (0, \infty)$	
E) $(-\infty, 0) \cup (2, \infty)$	

If $f(x) = -\sqrt{x^2 - 16}$ , for $x \ge 4$ , then the inverse function is A) $f^{-1}(x) = \sqrt{x^2 + 16}$ , for $x \le 0$ . B) $f^{-1}(x) = \sqrt{x^2 - 16}$ , for $x \ge 0$ . C) $f^{-1}(x) = \sqrt{x - 4}$ , for $x \ge 4$ . D) $f^{-1}(x) = \sqrt{x + 4}$ , for $x \ge -4$ . E) $f^{-1}(x) = \sqrt{x^2 + 16}$ , for $-4 \le x \le 4$ . Which one of the following statements is FALSE? A) If $f(x) = x^2$ , then $f^{-1}(x) = \sqrt{x}$ . B) The function $f(x) = 3$ , defined over the set of real numbers is not one-to-one. C) The range of the function $f$ is equal to the domain of $f^{-1}$ . D) An increasing function on its entire domain is one-to-one. E) If the point $(a, b)$ lies on the graph of $f$ , then the point $(b, a)$ lies on the graph of $f^{-1}$ .
B) $f^{-1}(x) = \sqrt{x^2 - 16}$ , for $x \ge 0$ . C) $f^{-1}(x) = \sqrt{x - 4}$ , for $x \ge 4$ . D) $f^{-1}(x) = \sqrt{x + 4}$ , for $x \ge -4$ . E) $f^{-1}(x) = \sqrt{x^2 + 16}$ , for $-4 \le x \le 4$ . Which one of the following statements is FALSE? A) If $f(x) = x^2$ , then $f^{-1}(x) = \sqrt{x}$ . B) The function $f(x) = 3$ , defined over the set of real numbers is not one-to-one. C) The range of the function $f$ is equal to the domain of $f^{-1}$ . D) An increasing function on its entire domain is one-to-one. E) If the point $(a, b)$ lies on the graph of $f$ , then the point $(b, a)$ lies on the graph
B) $f^{-1}(x) = \sqrt{x^2 - 16}$ , for $x \ge 0$ . C) $f^{-1}(x) = \sqrt{x - 4}$ , for $x \ge 4$ . D) $f^{-1}(x) = \sqrt{x + 4}$ , for $x \ge -4$ . E) $f^{-1}(x) = \sqrt{x^2 + 16}$ , for $-4 \le x \le 4$ . Which one of the following statements is FALSE? A) If $f(x) = x^2$ , then $f^{-1}(x) = \sqrt{x}$ . B) The function $f(x) = 3$ , defined over the set of real numbers is not one-to-one. C) The range of the function $f$ is equal to the domain of $f^{-1}$ . D) An increasing function on its entire domain is one-to-one. E) If the point $(a, b)$ lies on the graph of $f$ , then the point $(b, a)$ lies on the graph
C) $f^{-1}(x) = \sqrt{x-4}$ , for $x \ge 4$ . D) $f^{-1}(x) = \sqrt{x+4}$ , for $x \ge -4$ . E) $f^{-1}(x) = \sqrt{x^2 + 16}$ , for $-4 \le x \le 4$ . Which one of the following statements is FALSE? A) If $f(x) = x^2$ , then $f^{-1}(x) = \sqrt{x}$ . B) The function $f(x) = 3$ , defined over the set of real numbers is not one-to-one. C) The range of the function $f$ is equal to the domain of $f^{-1}$ . D) An increasing function on its entire domain is one-to-one. E) If the point $(a, b)$ lies on the graph of $f$ , then the point $(b, a)$ lies on the graph
C) $f^{-1}(x) = \sqrt{x-4}$ , for $x \ge 4$ . D) $f^{-1}(x) = \sqrt{x+4}$ , for $x \ge -4$ . E) $f^{-1}(x) = \sqrt{x^2 + 16}$ , for $-4 \le x \le 4$ . Which one of the following statements is FALSE? A) If $f(x) = x^2$ , then $f^{-1}(x) = \sqrt{x}$ . B) The function $f(x) = 3$ , defined over the set of real numbers is not one-to-one. C) The range of the function $f$ is equal to the domain of $f^{-1}$ . D) An increasing function on its entire domain is one-to-one. E) If the point $(a, b)$ lies on the graph of $f$ , then the point $(b, a)$ lies on the graph
E) $f^{-1}(x) = \sqrt{x^2 + 16}$ , for $-4 \le x \le 4$ . Which one of the following statements is FALSE? A) If $f(x) = x^2$ , then $f^{-1}(x) = \sqrt{x}$ . B) The function $f(x) = 3$ , defined over the set of real numbers is not one-to-one. C) The range of the function $f$ is equal to the domain of $f^{-1}$ . D) An increasing function on its entire domain is one-to-one. E) If the point $(a, b)$ lies on the graph of $f$ , then the point $(b, a)$ lies on the graph
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C) The range of the function $f$ is equal to the domain of $f^{-1}$ . D) An increasing function on its entire domain is one-to-one. E) If the point $(a, b)$ lies on the graph of $f$ , then the point $(b, a)$ lies on the graph $F$ is equal to the domain of $f^{-1}$ . F inverse Functions.
C) The range of the function $f$ is equal to the domain of $f^{-1}$ .Inverse Functions.D) An increasing function on its entire domain is one-to-one.E) If the point $(a, b)$ lies on the graph of $f$ , then the point $(b, a)$ lies on the graphInverse
<ul><li>D) An increasing function on its entire domain is one-to-one.</li><li>E) If the point (a, b) lies on the graph of f, then the point (b, a) lies on the graph</li></ul>
of $f^{-1}$ .
If $f(x) = \frac{2x+1}{x-1}$ , $x \neq 1$ , then $f^{-1}(x)$ equals to
A) $\frac{x+1}{x-2}$ , $x \neq 2$
B) $\frac{x+1}{x+2}$ , $x \neq -2$ 1-1 and
$C)\frac{x-1}{x-2}, x \neq 2$ Inverse Functions.
D) $\frac{x-1}{x+2}, x \neq -2$
E) $\frac{x-1}{2x+1}$ , $x \neq -\frac{1}{2}$
2x+1 2

Which one of the following functions is NOT one - to - one function?	
A) $f(x) =  x - 1  + 2$	
$B) f(x) = x^3 - 6$	1-1 and
C) $f(x) = x^2 - 4, \ 0 \le x < \infty$	Inverse Functions.
D) f(x) = 3x - 5	
E) $f(x) = -\frac{2}{x+3}$	
275	
If $f^{-1}(x) = -\sqrt{x+9}$ , $x \ge -9$ , then the graph of f lies below the x-axis on the interval	
interval	
A) [0,∞)	
B) (-9,0]	1-1 and Inverse
C) (-3,0]	Functions.
D) (3,∞)	
E) (−∞, 0]	
If $f^{-1}(x) = \frac{1}{2} - \sqrt{x + \frac{5}{4}}$ , then $f(-\frac{1}{2})$ is equal to	
$A) - \frac{1}{4}$	
B) $-\frac{9}{4}$	1-1 and
$C)\frac{9}{4}$	Inverse Functions.
C) $\frac{9}{4}$ D) $\frac{1-\sqrt{3}}{2}$	
$\frac{D}{2}$	
E) $-\frac{5}{4}$	

Which one of the following functions is NOT a one-to-one function?	
when one of the following functions is NOT a one-to-one function:	
A) $f(x) = \sqrt{(x-2)^2}, x \ge 0$	
B) $f(x) = 2 - \sqrt{2x - 1}$	1-1 and Inverse
C) $f(x) = \frac{1}{x-1} + 3$	Functions.
D) $f(x) = x^2 - 2x + 1; x \le 1$	
E) $f(x) = (x - 1)^3$	
Given the function $f(x) = -\sqrt{16 - x^2}$ , $0 \le x \le 4$ , then the domain of $f^{-1}(x)$	
is:	
A) [-4,0]	1-1 and
B) [-4,4]	Inverse
C) [0,4]	Functions.
D) [4,∞)	
E) (−∞, −4]	
If $f(x) = - x - 3  + 2$ , $x \le 3$ , then the domain of the inverse function $f^{-1}$ is	
A) (−∞, 2]	
B) [2,∞)	1-1 and Inverse
C) [3,∞)	Functions.
D) $(-\infty,\infty)$	
E) (−∞,3]	

If $f(x) = a^{x+b}$ , where $f^{-1}(1) = 4$ and $f^{-1}(3) = 5$ , then $f(2) =$	
<mark>A) <sup>1</sup>/<sub>9</sub></mark> B) 9	1-1 and Inverse
C) 3 D) $\frac{1}{3}$	Functions.
E) -4	