

COLLEGE ALGEBRA
MATH 1314
CHAPTER TWO REVIEW

Name _____

MULTIPLE CHOICE. Choose the one alternative that best completes the statement or answers the question.

Determine whether the relation is a function.

1) $\{(-4, 5), (-3, 5), (4, -5), (8, -1)\}$

A) Function

B) Not a function

Find and simplify the difference quotient $\frac{f(x+h) - f(x)}{h}$, $h \neq 0$ for the given function.

2) $f(x) = 4x^2$

A) $4(2x+h)$

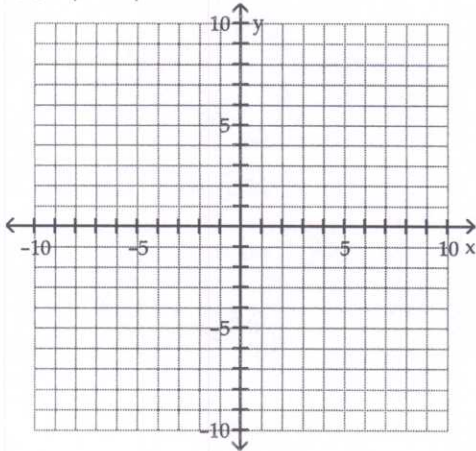
B) $\frac{8}{h} + x + 4h$

C) 4

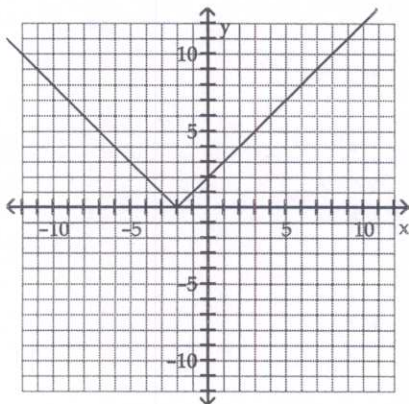
D) $\frac{4(2x^2 + 2xh + h^2)}{h}$

Graph the function.

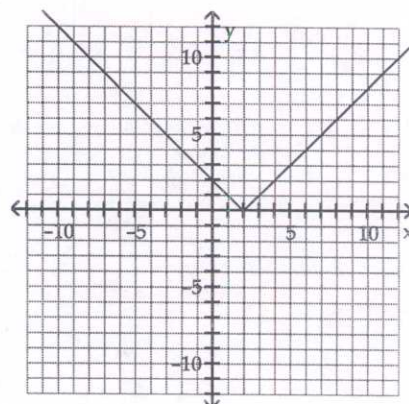
3) $f(x) = |x - 2|$



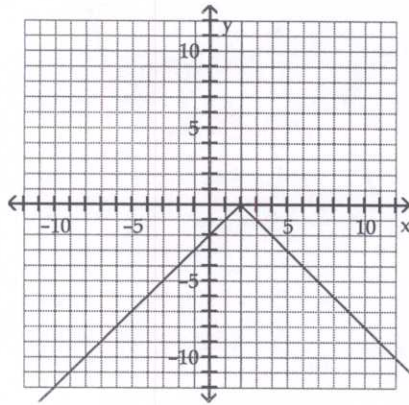
A)



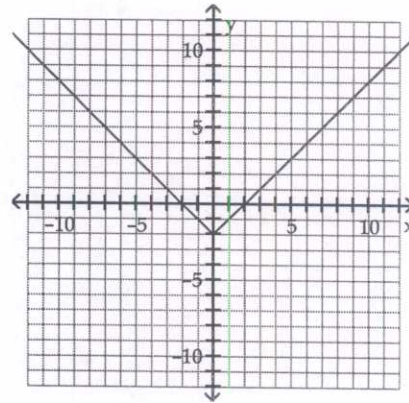
B)



C)

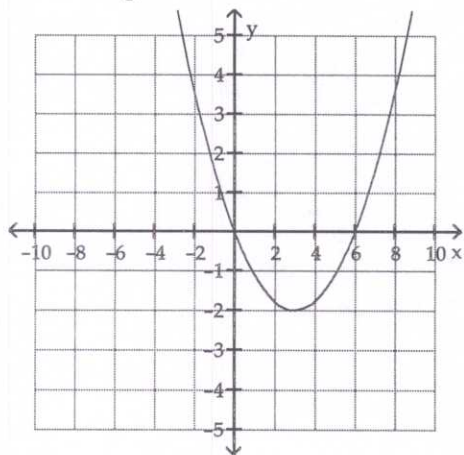


D)



Identify the intervals where the function is changing as requested.

4) Decreasing



A) $(0, 3)$

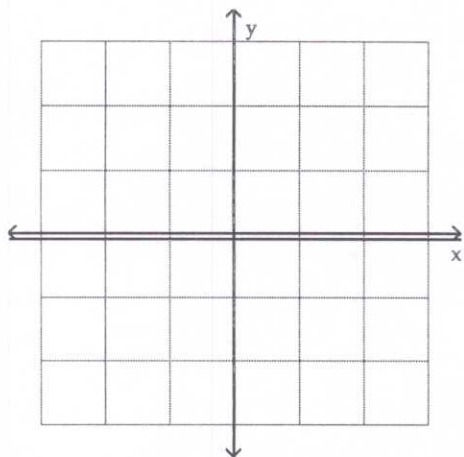
B) $(-\infty, -2)$

C) $(0, -2)$

D) $(-\infty, 3)$

Use the shape of the graph to name the function.

5)



A) Identity function

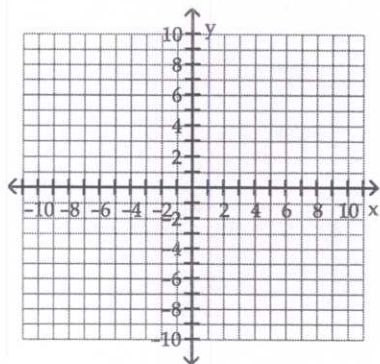
C) Absolute value function

B) Constant function

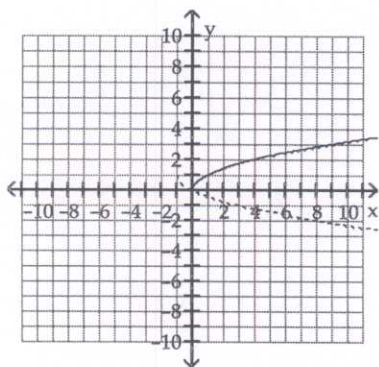
D) Standard cubic function

Begin by graphing the standard square root function $f(x) = \sqrt{x}$. Then use transformations of this graph to graph the given function.

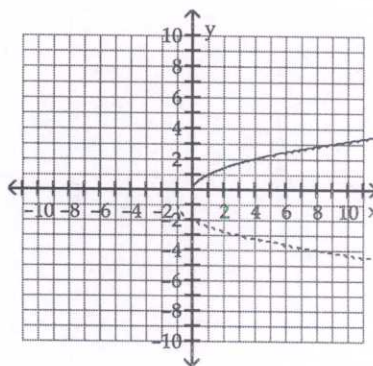
6) $g(x) = -\sqrt{x+1} - 1$



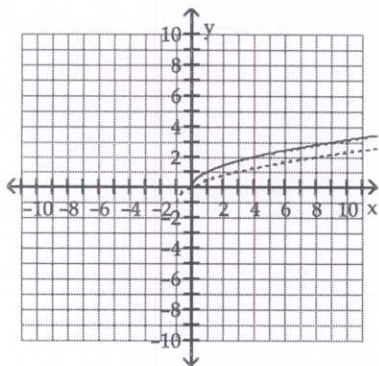
A)



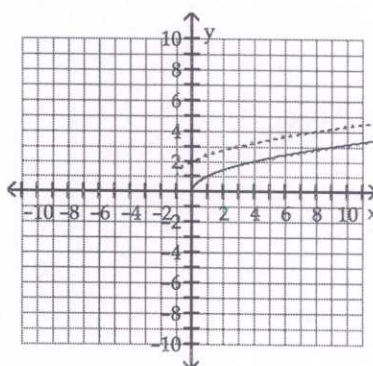
B)



C)



D)



Given functions f and g , determine the domain of $f + g$.

7) $f(x) = 5x - 4$, $g(x) = \frac{4}{x+6}$

A) $(-\infty, -4)$ or $(-4, \infty)$

B) $(0, \infty)$

C) $(-\infty, -6)$ or $(-6, \infty)$

D) $(-\infty, \infty)$

For the given functions f and g , find the indicated composition.

8) $f(x) = \frac{7}{x+5}$, $g(x) = \frac{8}{7x}$

$(f \circ g)(x)$

A) $\frac{8x+40}{49x}$

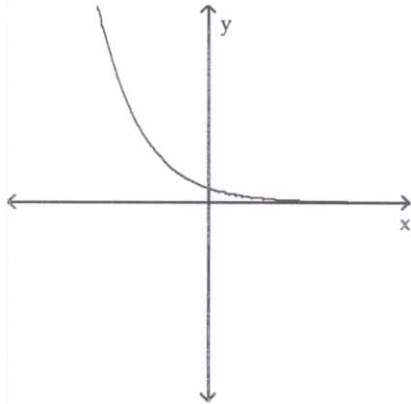
B) $\frac{7x}{8+35x}$

C) $\frac{49x}{8+35x}$

D) $\frac{49x}{8-35x}$

Does the graph represent a function that has an inverse function?

9)



A) Yes

B) No

Find the inverse of the one-to-one function.

10) $f(x) = \frac{5x - 3}{8}$

A) $f^{-1}(x) = \frac{8}{5x + 3}$

B) $f^{-1}(x) = \frac{8x - 3}{5}$

C) $f^{-1}(x) = \frac{8}{5x - 3}$

D) $f^{-1}(x) = \frac{8x + 3}{5}$