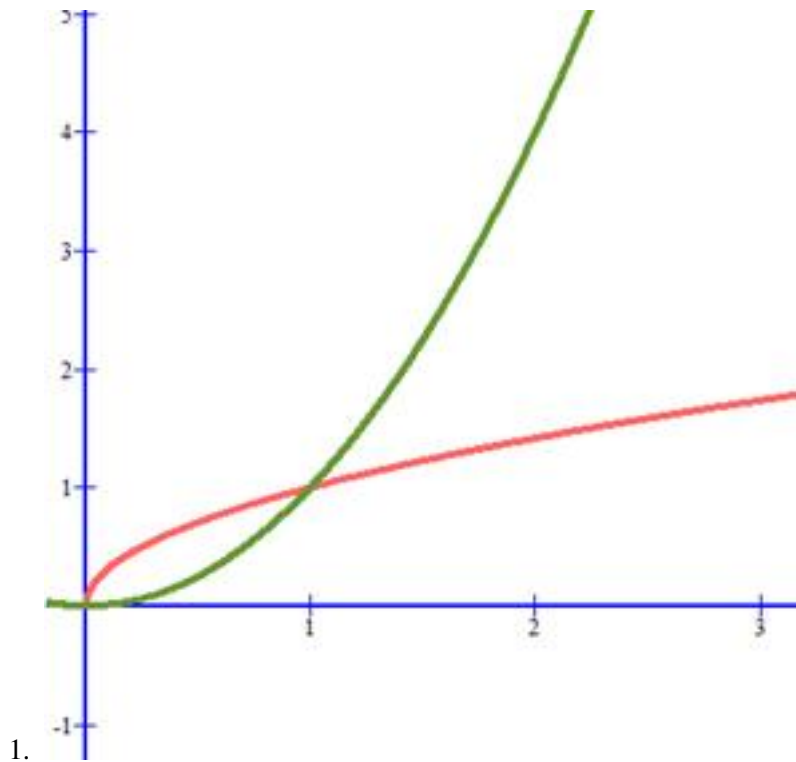


PreCal 1.6 HW Worksheet

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True False Questions

Indicate True or False for the following Statements.



Are these graphs inverses of each other?

(True/False)

Short Answer Questions

Fill in the answer blanks with correct answer.

2. Find the domain of $(g \circ f)(x)$ where $f(x) =$

$$x + 3$$

and $g(x) =$

$$\frac{1}{x^2}$$

All real numbers; $x \neq \underline{\hspace{2cm}}$

Answer:

3. Find the domain of $(g \circ f)(x)$ where $f(x) =$

$$\frac{1}{x+1}$$

and $g(x) =$

$$(x+2)^2$$

All real numbers; $x \neq \underline{\hspace{2cm}}$ (list your answers in order from least to greatest. If there is no answer, type “/” in the blank)

Answer:

4. $f(x) = x^2 - 3$
 $g(x) = 4x + 3$
 $f(g(2)) = \underline{\hspace{2cm}}$

Answer:

Multiple Choice Questions

For each question, four alternative choices are given, of which only one is correct. You have to select the correct alternative and mark it in the appropriate option.

5. Find the inverse of $f(x) = \sqrt[5]{x+16}$ algebraically.

- a. $f^{-1}(x) = x^5 - 16$
- b. $f^{-1}(x) = x^5 + 16$
- c. $f^{-1}(x) = x^5 + 4$
- d. $f^{-1}(x) = x^5 - 4$

6. Find the inverse of $f(x) = x^2 + 1$, where $x > 0$.

- a. \sqrt{x} , where $x > 1$
- b. $\sqrt{x+1}$, where $x > 1$
- c. $\sqrt{x-1}$, where $x > 1$
- d. $\sqrt{x^2-1}$, where $x > 1$

7. What is the inverse of $y = 3x + 5$?

- a. $y = -\frac{1}{3}x - 5$
- b. $y = \frac{1}{3}x - \frac{5}{3}$
- c. $y = 3x - 5$
- d. $y = \frac{1}{3}x - \frac{3}{5}$

8. Find two functions f and g such that $(f \circ g)(x) = h(x)$ if

$$h(x) = \sqrt{1 + \sqrt[3]{x}}$$

- a. $f(x) = \sqrt{1+x}; g(x) = \sqrt[3]{x}$
 b. $f(x) = \sqrt[2]{x}; g(x) = \sqrt{1+x}$
 c. $f(x) = \sqrt{1+\sqrt[3]{x}}; g(x) = x^3$
 d. $f(x) = 0; g(x) = \sqrt{1+\sqrt[3]{x}}$

9. Find the inverse of

$$f(x) = x^3 + 6$$

- a. $y = -\sqrt[3]{x-6}$
 b. $y = \sqrt[3]{x+6}$
 c. $y = -\sqrt[3]{x+6}$
 d. $y = \sqrt[3]{x-6}$

10. If $f(x) = 4x + 3$, $g(x) = x^2 - 3$, Find $f(g(x)) =$

- a. $16x^2 + 12x - 8$
 b. $2x^2 + 6$
 c. $4x^2 - 9$
 d. $4x^2 - 24$