

Lesson #9-11 Hw

Parent Functions

#1-10. Check graphs in calculator.

1. $D: (-\infty, \infty)$

2. $D: (-\infty, \infty)$

3. $D: (-\infty, \infty)$

4. $D: (-\infty, \infty)$

5. $D: \{x: x \neq \frac{\pi}{2} + k\pi, \text{ where } k \text{ is an integer}\}$

6. $D: (-\infty, 0) \cup (0, \infty)$

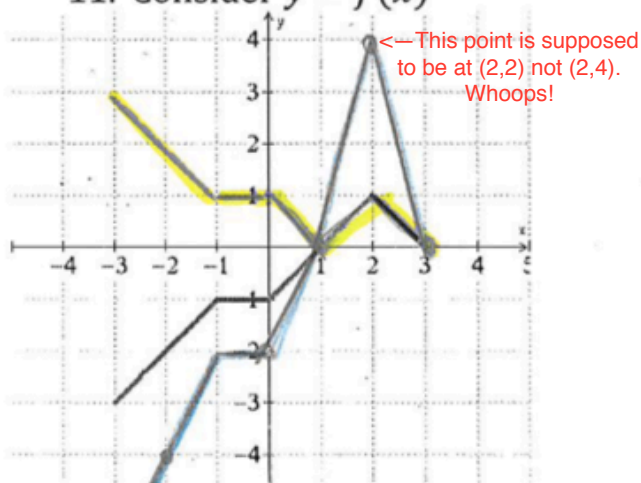
7. $D: (0, \infty)$

8. $D: (-\infty, \infty)$

9. $D: [0, \infty)$

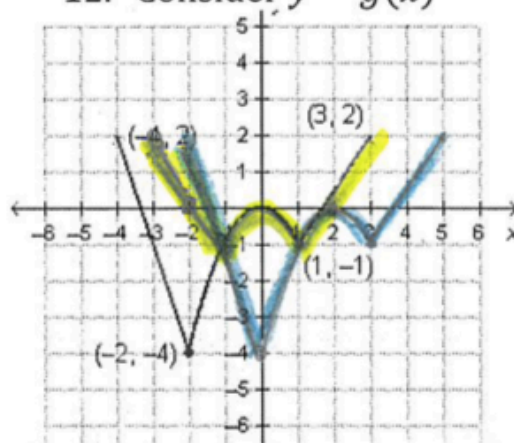
10. $D: (-\infty, 0) \cup (0, \infty)$

11. Consider $y = f(x)$



Draw: A) $y = 2f(x)$
 B) $y = |f(x)|$

12. Consider $y = g(x)$



Draw: A) $y = g(x - 2)$
 B) $y = g|x|$

Function Operations

1. $(f+g)(x) = 3\sqrt{x-1}$

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

$$(fg)(x) = 2x-2$$

$$\left(\frac{f}{g}\right)(x) = 2$$

2. A) 3

B) 9

C) 2

D) 2

3. A) t^4+1

B) $\frac{1}{x^2}+1$

C) $x^2+2hx+h^2+1$

D) x^2+1

E) $x+1$

F) $9x^2+1$

4. $(f \circ g)(x) = 1-x$

$$(g \circ f)(x) = \sqrt{1-x^2}$$

5. $(f \circ g)(x) = \frac{1}{1-2x}$

$$(g \circ f)(x) = \frac{1+x}{-2x}$$

6. A) $h(x) = x+2$

$$g(x) = \sqrt{x}$$

B) $h(x) = x^2-3x+5$

$$g(x) = |x|$$

C) $h(x) = \sin x$

$$g(x) = x^2$$

D) $h(x) = \cos x$

$$g(x) = \frac{3}{5+x}$$