

Review - 6.6

① $2x^2 + 4x + 2$

D: $(-\infty, \infty)$
all real #'s

③ $2x^2 - 4x + 4$

D: $(-\infty, \infty)$
all real #'s

④ $8x^3 - 2x^2 + 12x - 3$

D: $(-\infty, \infty)$
all real #'s

⑥ $\frac{2x^2 + 3}{4x - 1}$

D: $(-\infty, \frac{1}{4}) \cup (\frac{1}{4}, \infty)$
all reals except $x = \frac{1}{4}$

⑧ $2x - \sqrt{x} + 1$

D: $[0, \infty)$
 $x \geq 0$

⑪ $\frac{2x}{\sqrt{x} - 1}$

D: $(0, 1) \cup (1, \infty)$
~~all reals except~~ $x \neq 1$
 $x \geq 0$ except

$\sqrt{x} - 1 \neq 0$
 $\sqrt{x} \neq 1$
 $x \neq 1$
and $x \geq 0$

⑫ $\frac{\sqrt{x} - 1}{2x}$
D: ~~$(0, \infty)$~~
 ~~$x > 0$~~
 $x > 0$

⑬ -4

⑭ -2

⑮ 7

⑳ $\frac{-3x + 2}{5}$

㉔ a) $f(x) = 1.25x$

b) $g(x) = x + 1.50$

c) $f(g(13)) \stackrel{A}{=} 18.13$

d) $g(f(13)) \stackrel{B}{=} 17.75$

㉕ a) $f(x) = 1.80x$

b) $g(x) = 0.75x$

c) $f(g(150)) \stackrel{B}{=} 202.50$

$g(f(150)) \stackrel{A}{=} 202.50$

d) order doesn't matter
mult by 1.80 and .75
in either order
is same

㉖ a) $f(x) = .75x$

b) $g(x) = x - 5$

c) $f(g(50)) \stackrel{B}{=} 33.75$

$g(f(50)) = 32.50$

d) order matters

㉗ $3x^2 - 13$

㉘ $3x^3 + 2x^2 - 15x - 10$

Ex. 1 $f(g(x)) = 6x + 8$

$g(f(x)) = 6x - 9$

Ex. 2 $f(g(x)) = x - 5$

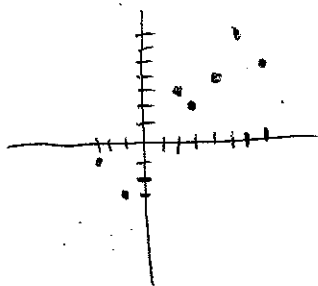
$g(f(x)) = \sqrt{x^2 - 5}$

6-7 Review

① ~~Define~~ A relation and its inverse undo one another.

②

x	y
3	2
4	4
7	5
-1	-3



symmetric with respect to $y=x$ line.

③ $f^{-1}(x) = \frac{x+5}{2}$

④ $f^{-1}(x) = x^2 - 3$

⑤ $f^{-1}(x) = \sqrt[3]{x+4}$

⑥(A) $f^{-1}(x) = \sqrt[4]{x} - 7$

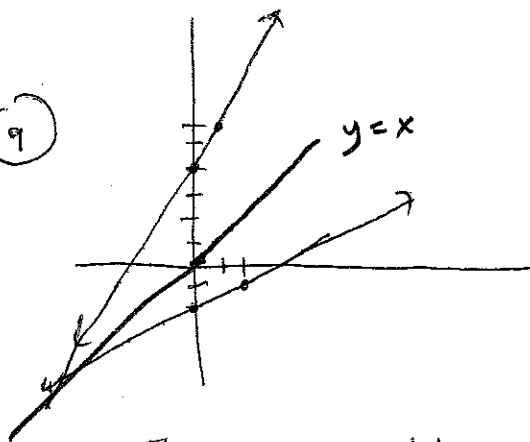
(B) $f^{-1}(x) = (x-3)^2 + 2$

⑦(A) $f^{-1}(x) = \frac{x-6}{3}$

(B) 5, -4

⑧ $f(g(x)) = g(f(x)) = x$
f and g are inverses

⑨



They are symmetric with respect to the line $y=x$.

⑩

$$S = 0.04n + 2500$$

$$y = 0.04x + 2500$$

$$x = 0.04y + 2500$$

$$y = \frac{x - 2500}{.04}$$

$$n = \frac{S - 2500}{.04}$$

(b) $n = \frac{2820 - 2500}{.04}$

$n = 8000$