

October 9, 2015

9.2
#24) $f(x) = \sqrt{2-x} + 1$

a) $f(0) = \sqrt{2-(0)} + 1$
 $= \sqrt{2} + 1$
 $(0, \sqrt{2} + 1)$

b) $f(-2) = \sqrt{2-(-2)} + 1$
 $= \sqrt{2+2} + 1$
 $= \sqrt{4} + 1$
 $= 2 + 1$
 $= 3$
 $(-2, 3)$

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c) $f(x) = \sqrt{2-x} + 1$
 $= \sqrt{2-x} + 1$
 $(x, \sqrt{2-x} + 1)$
 x $f(x)$ or y

d) $f(x+1) = \sqrt{2-(x+1)} + 1$
 $= \sqrt{2-x-1} + 1$
 $= \sqrt{1-x} + 1$
 $(x+1, \sqrt{1-x} + 1)$

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#31) $h(x) = 3x^2 - x$

c) $h(x^2+2x) = 3(x^2+2x)^2 - (x^2+2x)$
 $= 3[(x^2+2x)(x^2+2x)] - x^2 - 2x$
FOIL
 $= 3[x^4 + 2x^3 + 2x^3 + 4x^2] - x^2 - 2x$
 $= 3[x^4 + 4x^3 + 4x^2] - x^2 - 2x$
 $= 3x^4 + 12x^3 + 12x^2 - x^2 - 2x$
 $= 3x^4 + 12x^3 + 11x^2 - 2x$

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9.1
#37) $g(x) = \frac{1}{x^2}$ $\frac{g(x+h)-g(x)}{h}$

a) $g(x) = \frac{1}{x^2}$
 $\times g(x) = \frac{1}{x^2}$

b) $g(x+h) = \frac{1}{(x+h)^2}$

$\frac{\frac{1}{(x+h)^2} - \frac{1}{x^2}}{h}$
gcd: $(x^2)(x^2+h^2)$
 $\frac{\frac{1}{x^2+h^2+h^2} - \frac{1}{x^2}}{\frac{1}{h}}$

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