

$$y = \frac{1}{2}x^2 + \frac{1}{2}$$

No + a monomial, still a function.

$$g(x) = x^{\frac{1}{2}} + x^{\frac{1}{3}}, \text{ no because a negative exponent is}$$

polynomial, still a function though.

$$g(x) = (x-2)^2 - 1, \text{ no because square root is not a}$$

$$(c) g(x) = (x-2)^2 - 1, \text{ yes, } (d) y = x^3 - 1, \text{ yes}$$

$$(e) y = 3x - 1, \text{ yes, } (f) y = x^3, \text{ yes}$$

because x^3 is not both a monomial

$$(g) y = x^2 + 2, \text{ function but not a polynomial function}$$

$$= x^4 - 6x^3 + 13x^2 - 12x + 4, \text{ yes, it's a polynomial function}$$

$$(h) y = (x-1)^2 \cdot (x-2)^2 = (x^2 - 2x + 1)(x^2 - 4x + 4)$$

function

$$(i) y = 3x^2 + 2x^2 + x = 5x^2 + x, \text{ yes, it's a polynomial}$$

1-57

Square root every thing

(j) because you can square anything, but you can't

$$(l) D-g(x) = R$$

$$(m) D-f(x) = R$$

$$(n) g(y) = \boxed{y-5} + 2 = \boxed{-1} + 2 = \boxed{1+2}$$

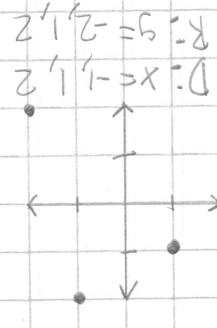
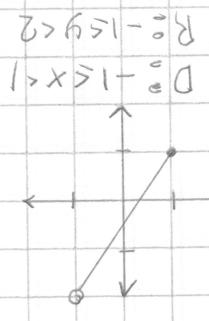
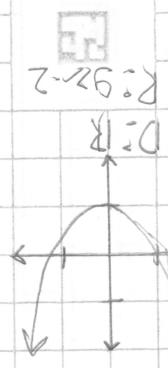
$$(o) F(y) = \boxed{y-4}^2 = 3(\boxed{y-4})^2 = 3(y-4)^2 = 3(y^2 - 8y + 16) = 3y^2 - 24y + 48$$

$$(p) g(5) = \boxed{5-5} + 2 = \boxed{0} + 2 = 2$$

$$(q) S(5) = 3(\boxed{5-8})^2 = 3(\boxed{-3})^2 = 3(9) = 27$$

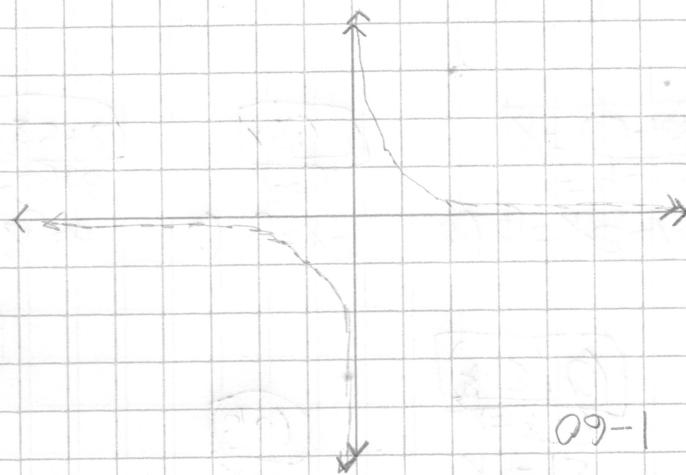
$$1-56 \quad f(x) = 3x^2 - 5, \quad g(x) = \sqrt{x-5} + 2$$

Ley Zaretsky PS11Y35ter Homeourt 11.6.4



1-1

Horizontal Asymptote: $y = 0$
Vertical Asymptote: $x = 0$



1-60

$\boxed{y = -4.39}$
 $\boxed{5.4 = -23.7}$

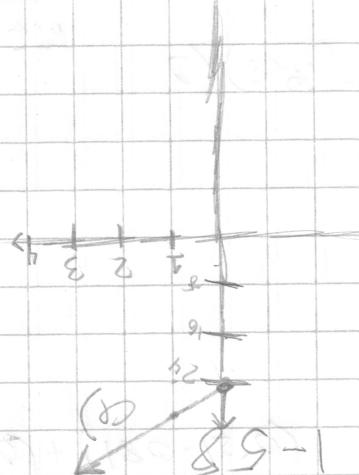
1-60 also solve $4.5x + 23.7$

1-59 $4.5x = 4.5x + 23.7$

$\boxed{6f \rightarrow 16}$
 $\boxed{2.2531}$
 $\boxed{2f \rightarrow 0}$

D: X > 0
R: g > 24

5	34
4	36
3	33
2	30
1	27
0	24
4	0



$B = 3d + 24; x \geq 0$

1-58 (a)

$$\begin{aligned} X &= \sqrt{y-100} \\ Y^2 &= y-100 \end{aligned}$$

$$d) y = x^2 - 100$$

$$\begin{aligned} 5x &= 1 \\ x &= \frac{1}{5} \end{aligned}$$

$$c) y = x^2$$

$$\begin{aligned} z + 5 &= x \\ z &= x - 5 \end{aligned}$$

$$b) 3x + 2y = 6$$

$$\begin{aligned} \frac{1}{3}x - \frac{1}{3}y &= 1 \\ 3x - y &= 3 \end{aligned}$$

$$a) y = \frac{3}{5}x + 1$$

1-72

$$\begin{array}{|c|} \hline 13, 0 \\ \hline \end{array}$$

$$\begin{aligned} x_3 &= 13 \\ x_3 - 13 &= 0 \end{aligned}$$

$$\begin{array}{|c|} \hline 5, 0 \\ \hline \end{array}$$

$$\begin{aligned} x_2 &= 5 \\ x_2 - 5 &= 0 \end{aligned}$$

$$\begin{array}{|c|c|} \hline 0, 0 \\ \hline \end{array}$$

$$\begin{aligned} x_1 &= 0 \\ x_1 - 0 &= 0 \end{aligned}$$

$$\begin{array}{|c|c|} \hline 0, 0 \\ \hline \end{array}$$

$$c) y = x^2$$

$$\begin{array}{|c|} \hline 2, 0 \\ \hline \end{array}$$

$$\begin{aligned} y &= 2 \\ y - 2 &= 0 \end{aligned}$$

$$\begin{array}{|c|} \hline 0, 2 \\ \hline \end{array}$$

$$\begin{aligned} z &= 2 \\ z - 2 &= 0 \end{aligned}$$

$$\begin{array}{|c|} \hline 5, 2 \\ \hline \end{array}$$

$$\begin{aligned} x &= 5 \\ x - 5 &= 0 \end{aligned}$$

$$a) y = 3x + 6$$

72-1

89-1

$$x_1 = 6x_2$$

$$(x_1 - 6x_2)(x_1 - 6x_2)$$

$$\begin{aligned} \frac{1}{4}z^2 &= y^2 \\ z^2 &= 4y^2 \end{aligned}$$

$$d) 27 = 3y^2 = 3z^2 = 3(15)^2 = 3(225) = 675$$

76-1

$$(0.51 - 0.81) + (0.91 - 0.81) = x$$

$$OK = x$$

$$\begin{aligned} \angle B &= 130^\circ \\ \angle A &= 30^\circ \\ \text{Exterior angle} &= 180^\circ \end{aligned}$$

1-62