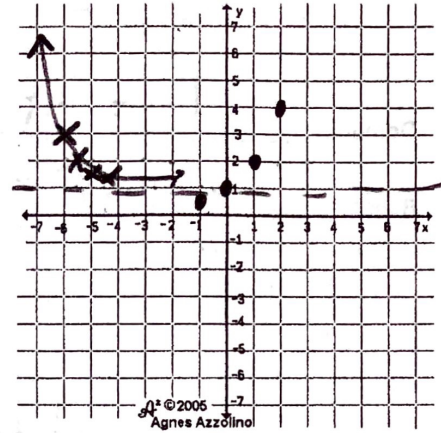


Graph the following.

$$1. y = \frac{1}{2}(2)^{-2x-10} + 1 = \frac{1}{2}(2)^{-2(x+5)} + 1$$

Asymptote: $y=1$
 Domain: $\{x \mid x \in \mathbb{R}\}$
 Range: $\{y \mid y > 1\}$
 End Behavior:
 $x \rightarrow +\infty y \rightarrow 1$
 $x \rightarrow -\infty y \rightarrow \infty$

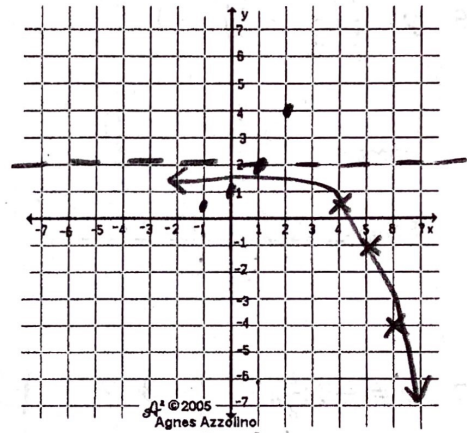
V.C $\frac{1}{2}$
 ROYA
 h.c $\frac{1}{2}$
 LS
 VP 1



$$2. y = -3(2)^{x-5} + 2$$

Asymptote: $y=2$
 Domain: $\{x \mid x \in \mathbb{R}\}$
 Range: $\{y \mid y < 2\}$
 End Behavior:
 $x \rightarrow +\infty y \rightarrow -\infty$
 $x \rightarrow -\infty y \rightarrow 2$

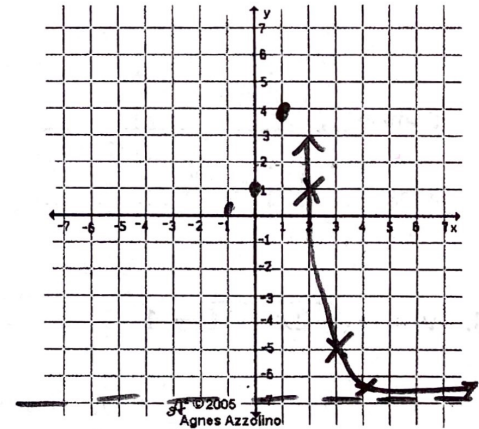
ROXA
 V.S. 3
 RS
 VP 2



$$3. y = 2(4)^{-x+3} - 7$$

Asymptote: $y=-7$
 Domain: $\{x \mid x \in \mathbb{R}\}$
 Range: $\{y \mid y > -7\}$
 End Behavior:
 $x \rightarrow +\infty y \rightarrow -7$
 $x \rightarrow -\infty y \rightarrow \infty$

V.S. 2
 ROYA
 R 3
 D 7

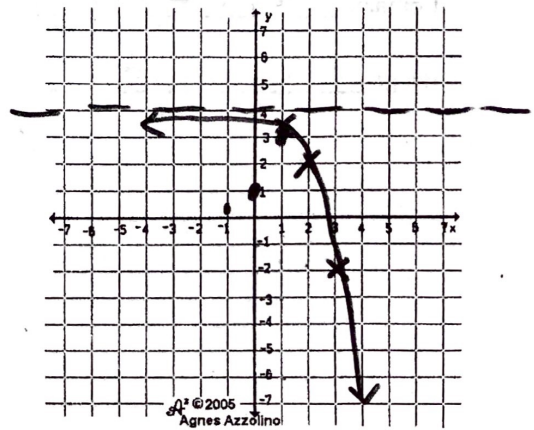


$$4. y = -2(9)^{\frac{1}{2}x-1} + 4$$

$$y = -2(3)^{x-2} + 4$$

Asymptote: $y=4$
 Domain: $\{x \mid x \in \mathbb{R}\}$
 Range: $\{y \mid y < 4\}$
 End Behavior:
 $x \rightarrow +\infty y \rightarrow -\infty$
 $x \rightarrow -\infty y \rightarrow 4$

ROXA
 V.S 2
 R 2
 VP 4



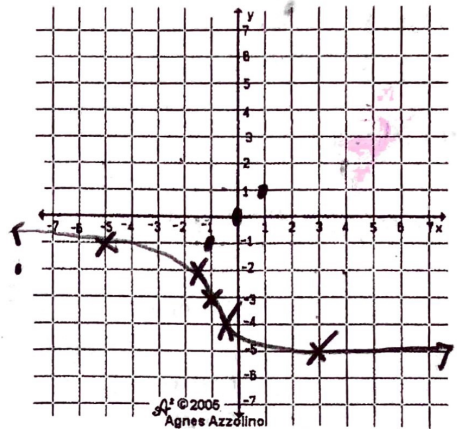
$$5. y = -\sqrt[3]{2x+2} - 3$$

$$-3\sqrt[3]{2(x+1)} - 3$$

Domain: $\{x | x \in \mathbb{R}\}$

Range: $\{y | y \in \mathbb{R}\}$

ROXA
h.c. $\frac{1}{2}$
L 1
D 3

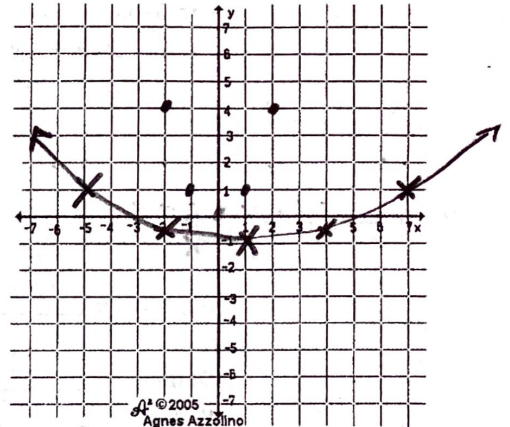


$$6. y = \frac{1}{2} \left(\frac{1}{3}x - \frac{1}{3} \right)^2 - 1 = \frac{1}{2} \left(\frac{1}{3}(x-1) \right)^2 - 1$$

Domain: $\{x | x \in \mathbb{R}\}$

Range: $\{y | y \geq -1\}$

v.c. $\frac{1}{2}$
h.st 3
R 1
D 1

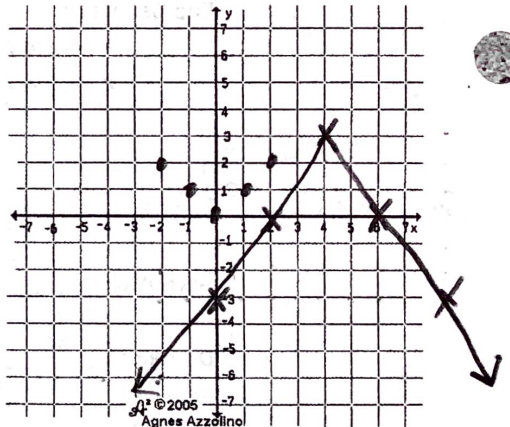


$$7. y = -3 \left| \frac{1}{2}x - 2 \right| + 3 = -3 \left| \frac{1}{2}(x-4) \right| + 3$$

Domain: $\{x | x \in \mathbb{R}\}$

Range: $\{y | y \leq 3\}$

ROXA
v.st. 3
h.st. 2
R 4
U 3



$$8. y = -\sqrt{-2x+10} + 4 = -\sqrt{-2(x-5)} + 4$$

Domain: $\{x | x \leq 5\}$

Range: $\{y | y \leq 4\}$

ROXA
ROYA
h.comp. $\frac{1}{2}$
R 5
UP 4

