Name: _____

HW: Square Root Function Summary

Rewrite in radical form:

1) $(3x)^{2/5}$ = $\sqrt[5]{(3x)^2}$

2) $4x^{3/2}$ = $\sqrt[2]{(4x)^3}$

Rewrite in rational exponent form:

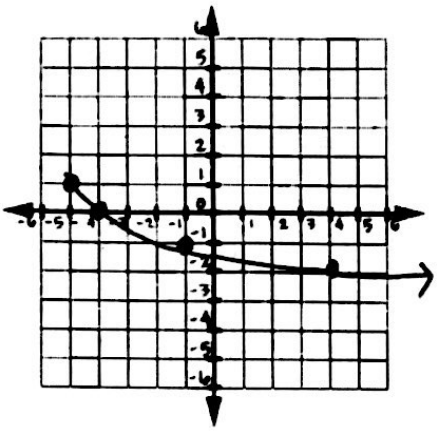
3) $8\sqrt[5]{x^3}$ = $8x^{3/5}$

4) $\sqrt{(5x)^7}$ = $(5x)^{7/2}$

Graph each square root function.

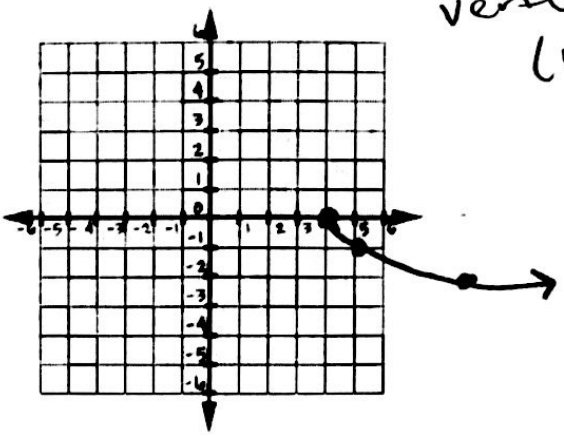
5) $y = -\sqrt{x+5}+1$

vertex (-5, 1)



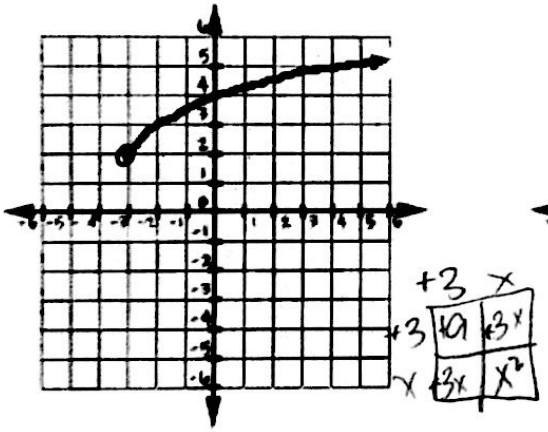
6) $y = -\sqrt{x-4}$

vertex (4, 0)

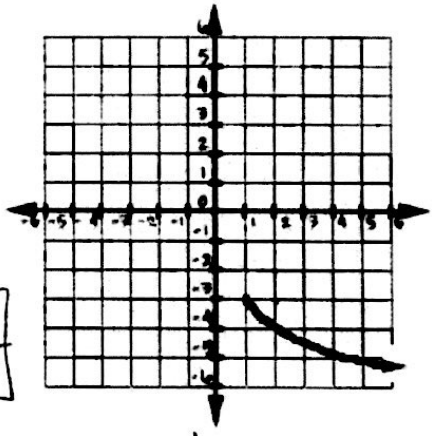


Write an equation for the graph of each square root function.

7) $y =$ $\sqrt{x+3}+2$



8) $y =$ $-\sqrt{x-1}-3$



vertex: (1, -3)

Solve each equation. Check for extraneous solutions!

9) $\sqrt{x+3}+8=4$

$-8 \quad -8$

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

$x+3=16$

$x=13$

$\sqrt{13+3}+8$

$\sqrt{16}+8$

$4+8$

$=$

$12 \neq 4$

No Solution

10) $\sqrt{2x+6}-x=3$

$(\sqrt{2x+6})^2 = (3+x)^2$

$2x+6 = x^2+6x+9$

$-2x \quad -6 \qquad -2x \quad -6$

$0 = x^2+4x+3$

$0 = (x+1)(x+3)$

$x=-1$ ✓ $\qquad x=-3$ ✓

11) $\sqrt{3x+7}=2$

$(\sqrt{3x+7})^2 = (2)^2$

$3x+7=4$

$-7 \quad -7$

$\frac{3x}{3} = \frac{-3}{3}$

$x=-1$ ✓