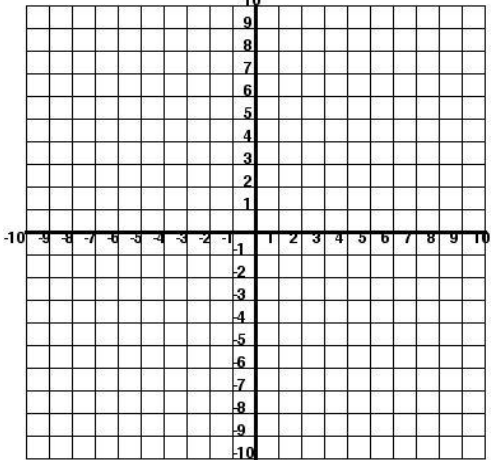
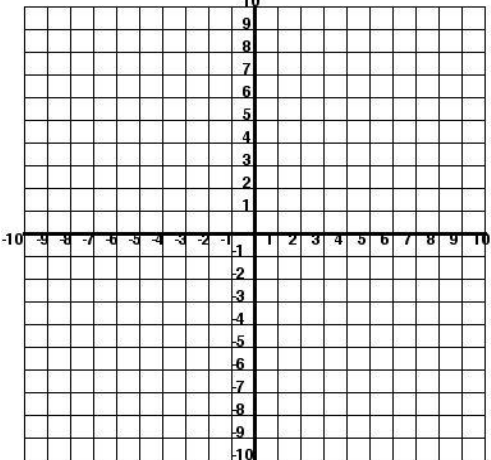
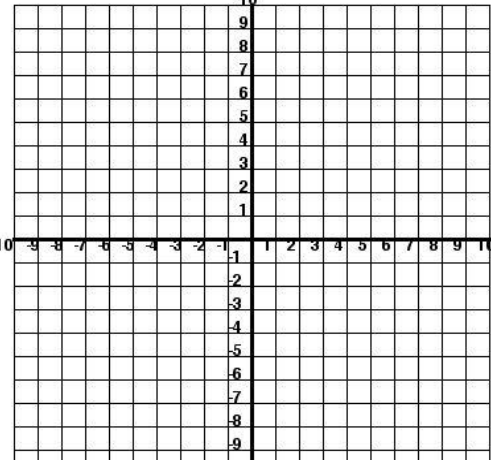
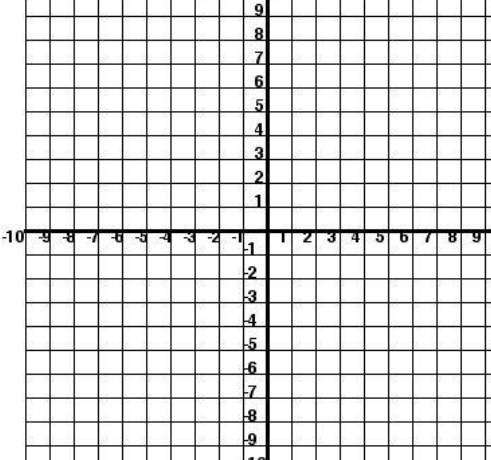
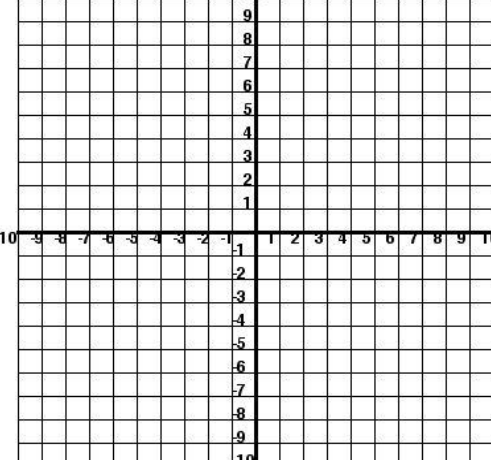
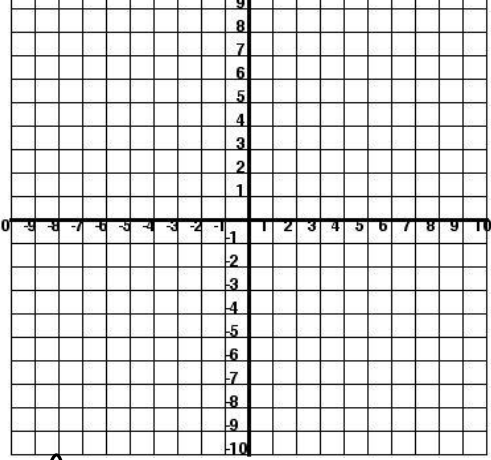


I. Graph each of the following and define ALL transformations.

<p>1. Graph: $y = \sqrt{x+4}$ T:</p>  <p style="margin-left: 350px;">Vertex: _____</p> <p style="margin-left: 350px;">Domain: _____</p> <p style="margin-left: 350px;">Range: _____</p>	<p>2. Graph: $y = \sqrt{x+3} - 6$ T:</p>  <p style="margin-left: 350px;">Vertex: _____</p> <p style="margin-left: 350px;">Domain: _____</p> <p style="margin-left: 350px;">Range: _____</p>
<p>3. Graph: $y = \sqrt[3]{x} + 2$ T:</p>  <p style="margin-left: 350px;">Vertex: _____</p> <p style="margin-left: 350px;">Domain: _____</p> <p style="margin-left: 350px;">Range: _____</p>	<p>4. Graph: $y = \sqrt[3]{x-1} - 3$ T:</p>  <p style="margin-left: 350px;">Vertex: _____</p> <p style="margin-left: 350px;">Domain: _____</p> <p style="margin-left: 350px;">Range: _____</p>
<p>5. Graph: $y = \frac{1}{x} + 2$ T:</p>  <p style="margin-left: 350px;">Vertex: _____</p> <p style="margin-left: 350px;">Domain: _____</p> <p style="margin-left: 350px;">Range: _____</p> <p style="margin-left: 50px; font-size: 1.5em; font-family: cursive;">Asymptotes</p> <p style="margin-left: 50px;">vertical: _____</p> <p style="margin-left: 50px;">horizontal: _____</p>	<p>6. Graph: $y = \frac{4}{x-1} - 3$ T:</p>  <p style="margin-left: 350px;">Vertex: _____</p> <p style="margin-left: 350px;">Domain: _____</p> <p style="margin-left: 350px;">Range: _____</p> <p style="margin-left: 50px; font-size: 1.5em; font-family: cursive;">Asymptotes</p> <p style="margin-left: 50px;">vertical: _____</p> <p style="margin-left: 50px;">horizontal: _____</p>

II. Write the equivalent expression for each:

1. $x^{2/5}$	2. $5x^{3/2}$	3. $25^{-3/2}$	4. $(\sqrt[3]{x})^7$	5. $\sqrt{5x}$	6. $6\sqrt[5]{x^3}$
--------------	---------------	----------------	----------------------	----------------	---------------------

III. Solve each of the following square root equations:

1. $\sqrt{x} = 10$ $x = \underline{\hspace{2cm}}$	2. $\sqrt{3x+1} = 2$ $x = \underline{\hspace{2cm}}$	3. $\sqrt{2x-6} = \sqrt{x+5}$ $x = \underline{\hspace{2cm}}$
4. $5\sqrt{x} = 45$ $x = \underline{\hspace{2cm}}$	5. $\sqrt{x} + 4 = 6$ $x = \underline{\hspace{2cm}}$	6. $-4\sqrt{5x} + 1 = -7$ $x = \underline{\hspace{2cm}}$






IV. Solve each of the following rational equations:

7. $\frac{x+5}{2} = \frac{x}{3}$ $x = \underline{\hspace{2cm}}$	8. $\frac{1}{3} = \frac{3}{x-5}$ $x = \underline{\hspace{2cm}}$
9. $\frac{x+5}{2} - \frac{x}{3} = 4$ $x = \underline{\hspace{2cm}}$	10. $\frac{3}{x} + \frac{2x}{x+1} = 2$ $x = \underline{\hspace{2cm}}$

IV. Solve each variation problem:

11. Your distance from lightning varies directly with the time it takes you to hear thunder. If you hear thunder 10 <i>sec.</i> after you hear lightning, you are about 2 <i>miles</i> from the lightning. About how many seconds would it take for thunder to travel a distance of 4 <i>miles</i> ?	12. The drama club is planning a bus trip to NYC. The cost per person varies inversely as the number of people going on the trip. It will cost \$30 per person if 44 people go on the bus. How much will it cost per person if 60 people go on the bus?
---	--

- Based on a given graph, determine the equation
- Know all parent functions

x^3	$\sqrt[3]{x}$	x^2	\sqrt{x}	$\frac{1}{x}$
Cubic	Cube Root	Quadratic	Square Root	Rational/inverse
				

Rough sketches / More precise in notes