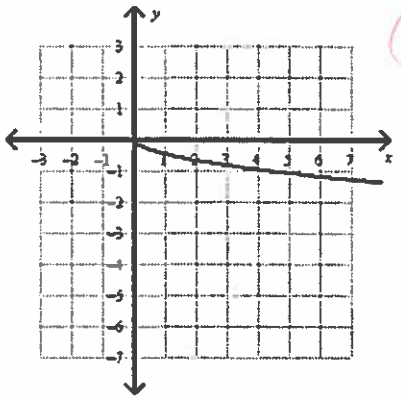
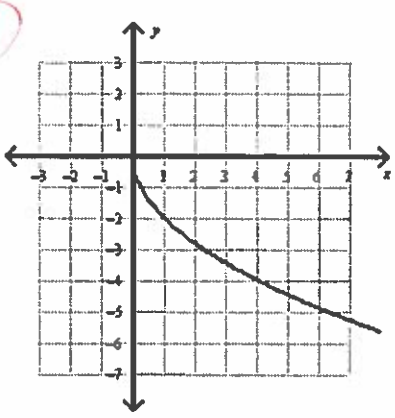
Name: Key

1. Choose the correct graph for the square root function $f(x) = -2\sqrt{x}$

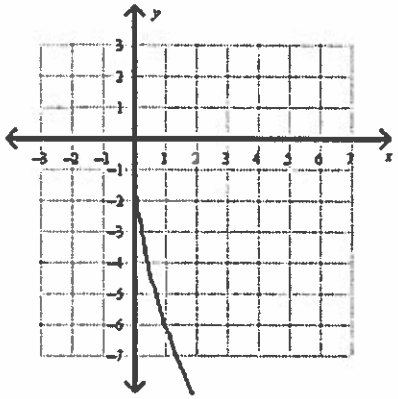
A.



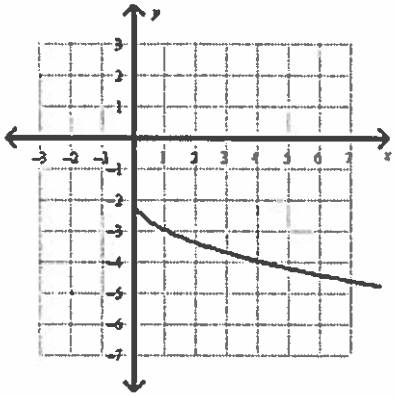
B.



C.

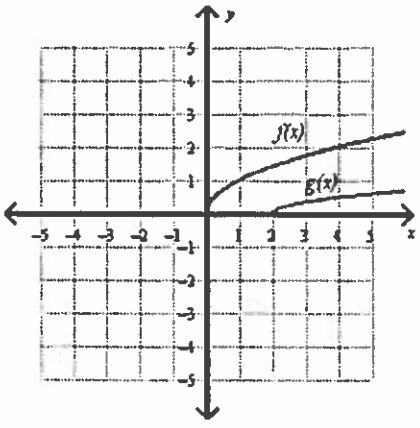


D.



2.

Describe how the graph of $g(x) = \frac{1}{3}\sqrt{x-2}$ is related to the graph of its parent function $f(x) = \sqrt{x}$



A. The graph is stretched vertically and translated 2 units right.

B. The graph is stretched horizontally and translated 2 units right.

C. The graph is stretched horizontally and translated 2 units left.

D. The graph is stretched vertically and translated 2 units right, and reflected over the x-axis.

vert compress = horizontally stretched

3. Simplify $(2+\sqrt{3})^2$

a) $7+4\sqrt{3}$ b) $7+7\sqrt{3}$ c) $7+2\sqrt{3}$ d) 7 e) $4+\sqrt{9}$

$4+4\sqrt{3}+3$

$7+4\sqrt{3}$

4. What is the domain and range of $g(x)$ in problem 2?

D: $x \geq 2$

R: $y \geq 0$

5. Simplify $3\sqrt{6}+3\sqrt{2}-\sqrt{50}+\sqrt{24}$

$-5\sqrt{2}+2\sqrt{6}$

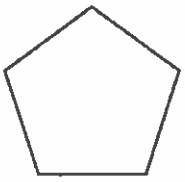
$5\sqrt{6}-2\sqrt{2}$

6. Simplify $\sqrt{6}(3\sqrt{2}-2\sqrt{3})$

$3\sqrt{12}-2\sqrt{18}$

$6\sqrt{3}-6\sqrt{2}$

7. The Pentagon is the building that houses the U.S. Department of Defense. Find the approximate perimeter of the building, which is a regular pentagon. Leave your answer as a radical expression.



$23\sqrt{149}$ m

$5(23\sqrt{149})$

$115\sqrt{149}$