

Solve the equations.

1) $\sqrt{2x - 5} = 6$

2) $\sqrt[3]{x - 10} - 7 = -5$

3) $\frac{2}{g+2} = \frac{-1}{g-8}$

4) $\frac{5}{6w} + \frac{1}{w} = -4$

5) $6x = \sqrt{24 + 12x}$

6) A period of a pendulum is the time required for one oscillation. An experiment is conducted in which pendulums are created with different lengths, l , and the corresponding periods are recorded. Enter the data in the table below in your calculator to find a power regression equation.

Length (ft)	1	2	3	4	5
Time (sec)	1.1	1.55	1.89	2.24	2.51

If the pendulum has a length of 8.2 feet, what is the period of the pendulum?

8) Graph and state the vertical and horizontal asymptotes for the following function: $f(x) = \frac{4}{x-5} + 2$

9) Evaluate each of the following:

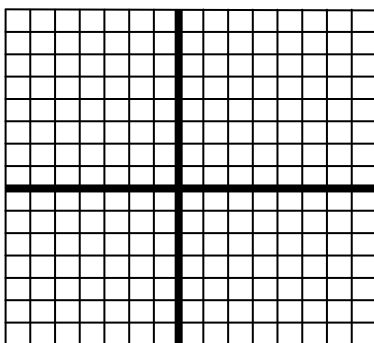
a. [10.1]

b. [15]

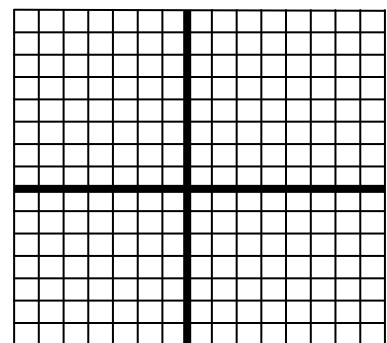
c. [-3.5]

For questions 10-11, graph and state the transformation(s) from the parent function.

10) $y = \sqrt{x+3}$

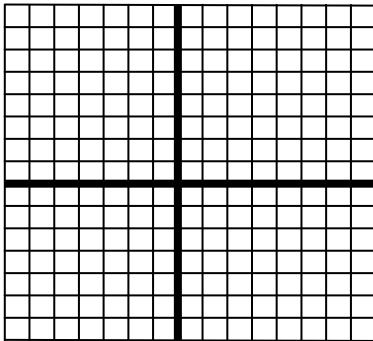


11) $y = \sqrt[3]{x-1} - 2$

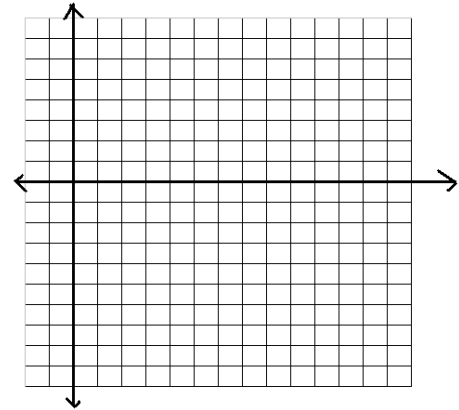


For questions 12-13, graph and state the transformation(s) from the parent function.

12) $y = -|x + 5|$



13) $f(x) = \begin{cases} \frac{1}{2}x + 1, & x < 3 \\ 4, & x \geq 3 \end{cases}$



14) A drama club is planning a bus trip to New York City to see a Broadway play. The cost per person for the bus rental varies inversely as the number of people going on the trip. It will cost \$50 per person if 45 people go on the trip. How much will it cost per person if 60 people go on the trip? Round any answers to the nearest cent.

15) The velocity of sound in air is given by the equation $v = 20\sqrt{273 + t}$, where v is the velocity in meters per second and t is the temperature in degrees Celsius. Find the temperature when the velocity of sound in air is 318 meters per second. Round the answer to the nearest degree.

16) Graph $f(x) = 4[x] - 2$

