

1. Use your calculator to find the length of the side of a square, given that the area of the square is 27.04 square feet. 1. _____

2. Use your calculator to find the length of the side of a cube, given that the volume of the cube is 79.507 cubic inches. 2. _____

3. Simplify $(\sqrt{2} + \sqrt{7})(\sqrt{2} - \sqrt{7})$. 3. _____

In #4 and #5, write the expression in radical notation.

4. $3^{\frac{2}{5}}$ 4. _____

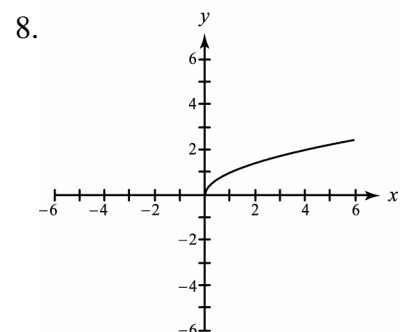
5. $\left(\frac{x}{y}\right)^{-\frac{1}{4}}$ 5. _____

In #6 and #7, evaluate the expression by hand.

6. $(-27)^{\frac{2}{3}}$ 6. _____

7. $16^{-\frac{3}{4}}$ 7. _____

8. Given the graph of $y = \sqrt{x}$, graph $y = \sqrt{x-2} - 3$.



In #9 through #14, simplify the expression. Assume that all variables are positive.

9. $(5x^{\frac{1}{2}}y^3)^2$ 9. _____

10. $\left(\frac{x^3}{y^2}\right)^{-\frac{1}{2}}$ 10. _____

11. $\sqrt[3]{-3} \cdot \sqrt[3]{9}$ 11. _____

12. $\frac{\sqrt[3]{y^8}}{\sqrt[3]{y^2}}$ 12. _____

13. $4\sqrt{3} + 6\sqrt{2} - 6\sqrt{3}$ 13. _____

14. $4\sqrt[3]{16} + \sqrt[3]{2}$ 14. _____

15. Solve $\sqrt{x-5} = 5 - \sqrt{x}$. 15. _____

16. The period T of a pendulum is given by $T = 2\pi\sqrt{\frac{L}{32.2}}$ 16. _____

(T in seconds, L in feet). Find the length of a pendulum with a period of 1.57 seconds. Round to the nearest hundredth.

17. A 20 foot ladder is placed 8 feet from the base of a building. 17. _____

How high up the side of the building will the ladder reach?

Round to the nearest tenth.

18. Find the distance between the points $(7, 2)$ and $(3, -4)$. 18. _____

In #19 and #20, write the complex expression in standard form.

19. $(-2.3 - 4.1i) - (6.2 - 8.7i)$ 19. _____

20. $\frac{-1.7 + 5.2i}{0.6 - 1.1i}$ 20. _____