

Solving by Square Rooting, Again!

Solve each quadratic equation by taking the square root. Leave answers in simplified radical form.

1) $x^2 = 400$

2) $x^2 = 56$

3) $3x^2 - 15 = 0$

4) $9x^2 = 16$

5) $25x^2 - 4 = 0$

6) $\frac{1}{2}x^2 = 3$

7) $10 - 3x^2 = 4$

8) $8 - 2x^2 = -3$

9) $\frac{1}{3}(x+1)^2 = 12$

10) $4(x^2 + 7) - 9 = 39$

11) $7 = 2(x+2)^2 - 3$

12) $-\frac{1}{4}(x-3)^2 + 12 = 0$

13. Circle the numbers that are **rational!**

8 3.14 $\sqrt{2}$ $\frac{5}{8}$ $77.\bar{7}$ $\sqrt[3]{8}$ π $-\frac{21}{7}$ $\sqrt{16}$
5.12122122212222.... $\sqrt[3]{18}$ -812 $\overline{2.41712}$ 2.4444...

14. Circle the numbers that are **irrational!**

$14.\overline{3628}$ $\sqrt{5}$ 6.35 $\frac{17}{19}$ π $\sqrt{30}$ $-\frac{1}{8}$ -162
3.03003000300003.... $\sqrt[3]{12}$ 18 $3.\overline{12}$ 3.55555....

15. Circle the correct word: A square root is (sometimes, always, never) irrational.

16. Circle the correct word: A cube root is (sometimes, always, never) irrational.

17. Write down three examples of rational numbers (not the ones above):

18. Write down three examples of irrational numbers (not the ones above):