Name: Key Block: X

Intro to Geometry 1 - Squares, Cubes, and Roots

Check your answers against those on my website as you work! Don't wait until you're done.

List the square and cube of each number:

#	1	2	3	4	5	6	7	8	9	10	11	12
Square	1	4	9	16	25	36	49	64	81	100	121	144
Cube	1	8	27	64	125	216	343	512	729	1000	1331	1728

Use the above table to *estimate* the following values to one decimal place, then check:

Square root of 6 2.5

Square root of 30 5.5

Square root of 24 4.9

Square root of 110 10.5

Square root of 52 7.2

Square root of 40 6.3

Square root of 34 5.8

Square root of 11 3.3

Square root of 99 9.9

Cube root of 9 2.1

Cube root of 75 4.2

Cube root of 100 4.7

Cube root of 23 2.8

Cube root of 45 3.6

Cube root of 400 7.3

Use square roots and cube roots to solve the following algebra problems:

$A^2 = 16$

$\sqrt{\ } \quad \sqrt{\ }$

$A = 4$

$B^3 = 27$

$\sqrt[3]{\ } \quad \sqrt[3]{\ }$

$B = 3$

$C^2 = 31$

$\sqrt{\ } \quad \sqrt{\ }$

$C \doteq 5.57$

$D^3 = 49$

$\sqrt[3]{\ } \quad \sqrt[3]{\ }$

$D \doteq 3.66$

$E^2 + 7 = 16$

$-7 \quad -7$

$E^2 = 9$

$\sqrt{\ } \quad \sqrt{\ }$

$E = 3$

$F^2 - 4 = 21$

$+4 \quad +4$

$F^2 = 25$

$\sqrt{\ } \quad \sqrt{\ }$

$F = 5$

$G^3 - 19 = 45$

$+19 \quad +19$

$G^3 = 64$

$\sqrt[3]{\ } \quad \sqrt[3]{\ }$

$G = 4$

$2H^2 = 200$

$\div 2 \quad \div 2$

$H^2 = 100$

$\sqrt{\quad} \quad \sqrt{\quad}$

$H = 10$

$3J^2 - 2 = 190$

$+2 \quad +2$

$3J^2 = 192$

$\div 3 \quad \div 3$

$J^2 = 64$

$\sqrt{\quad} \quad \sqrt{\quad}$

$J = 8$

$2K^3 + 11 = 65$

$-11 \quad -11$

$2K^3 = 54$

$\div 2 \quad \div 2$

$K^3 = 27$

$\sqrt[3]{\quad} \quad \sqrt[3]{\quad}$

$K = 3$

$L^2 + 14^2 = 19^2$

$-14^2 \quad -14^2$

$L^2 = 19^2 - 14^2$

$L^2 = 361 - 196$

$L^2 = 165$

$\sqrt{\quad} \quad \sqrt{\quad}$

$L \doteq 12.85$

$2M^2 - 18 = 16^2$

$+18 \quad +18$

$2M^2 = 16^2 + 18$

$2M^2 = 256 + 18$

$2M^2 = 274$

$\div 2 \quad \div 2$

$M^2 = 137$

$\sqrt{\quad} \quad \sqrt{\quad}$

$M \doteq 11.7$

$N^2 - 31 = 8^3$

$+31 \quad +31$

$N^2 = 8^3 + 31$

$N^2 = 512 + 31$

$N^2 = 543$

$\sqrt{\quad} \quad \sqrt{\quad}$

$N \doteq 23.3$

What is the area of a square with side length 18cm? What if its side length is 7m?

$A_{\square} = s^2$

$A_{\square} = (18cm)^2$

$A_{\square} = 324cm^2$

$A_{\square} = s^2$

$A_{\square} = (7m)^2$

$A_{\square} = 49m^2$

What is the side length of a square with area $200cm^2$? What if its area is $15m^2$?

$A_{\square} = s^2$

$200cm^2 = s^2$

$\sqrt{\quad} \quad \sqrt{\quad}$

$14.14cm \doteq s$

$A_{\square} = s^2$

$15m^2 = s^2$

$\sqrt{\quad} \quad \sqrt{\quad}$

$3.87m \doteq s$

What is the volume of a cube with side length 10cm? What if its side length is 2m?

$V = s^3$

$V = (10cm)^3$

$V = 1000cm^3$

$V = s^3$

$V = (2m)^3$

$V = 8m^3$

What is the side length of a cube with volume $45cm^3$? What if its volume is $225m^3$?

$V = s^3$

$45cm^3 = s^3$

$\sqrt[3]{\quad} \quad \sqrt[3]{\quad}$

$3.56cm \doteq s$

$V = s^3$

$225m^3 = s^3$

$\sqrt[3]{\quad} \quad \sqrt[3]{\quad}$

$6.08m \doteq s$