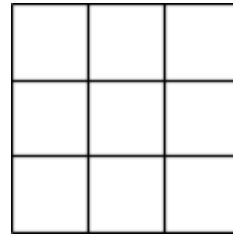


Assignment #1

Name: _____

Square roots of positive integer perfect squares

The following diagram suggests a square root equality:



3 units

$$\sqrt{9} = 3$$

1. Use a diagram similar to the one shown above to illustrate each of the following square root statements.

a. $\sqrt{4} = 2$

b. $\sqrt{16} = 4$

c. $\sqrt{25} = 5$

d. $\sqrt{1} = 1$

2. Fill in the blank to make each of the following square root statements true.

a. $\sqrt{\quad} = 6$

b. $\sqrt{\quad} = 10$

c. $\sqrt{\quad} = 9$

d. $\sqrt{\quad} = 11$

e. $\sqrt{\quad} = 8$

f. $\sqrt{\quad} = 15$

g. $\sqrt{\quad} = 12$

h. $\sqrt{\quad} = 20$

3. Write out the first 25 perfect squares – the first two have been done for you.

$1^2 = 1$ $2^2 = 4$ _____ _____ _____ _____ _____
 _____ _____ _____ _____ _____ _____ _____
 _____ _____ _____ _____ _____ _____ _____
 _____ _____ _____ _____ $0^2 = 0$

4. Calculate the value of the following square roots of positive integer perfect squares.

a. $\sqrt{9}$

b. $\sqrt{1}$

c. $\sqrt{25}$

d. $\sqrt{49}$

e. $\sqrt{81}$

f. $\sqrt{0}$

g. $\sqrt{64}$

h. $\sqrt{144}$ i. $\sqrt{256}$ j. $\sqrt{196}$ k. $\sqrt{289}$ l. $\sqrt{400}$ m. $\sqrt{361}$ n. $\sqrt{169}$
o. $\sqrt{225}$ p. $\sqrt{441}$ q. $\sqrt{625}$ r. $\sqrt{324}$ s. $\sqrt{484}$ t. $\sqrt{576}$ u. $\sqrt{529}$

5. Complete the following perfect squares – use the pattern established in the first 4 to guide you.

$5^2 =$ _____ $50^2 =$ _____ $500^2 =$ _____ $5000^2 =$ _____
 $30^2 =$ _____ $200^2 =$ _____ $7000^2 =$ _____ $90^2 =$ _____
 $600^2 =$ _____ $40^2 =$ _____ $6000^2 =$ _____ $800^2 =$ _____
 $110^2 =$ _____ $1300^2 =$ _____ $210^2 =$ _____ $1000^2 =$ _____

6. Some of the following positive integers are perfect squares and some are not. Circle **only the perfect squares** in the list of numbers.

a. 40000 b. 250 c. 6400 d. 14400 e. 81000 f. 360000 g. 100000000

7. Explain in a single sentence how many zeros there has to be for a number to be a perfect square.

8. Calculate the value of the following square roots of positive integer perfect squares.

a. $\sqrt{2500}$ b. $\sqrt{8100}$ c. $\sqrt{10000}$ d. $\sqrt{640000}$ e. $\sqrt{14400}$ f. $\sqrt{1210000}$ g. $\sqrt{1000000}$
h. $\sqrt{4900}$ i. $\sqrt{16900}$ j. $\sqrt{2890000}$ k. $\sqrt{57600}$ l. $\sqrt{6250000}$ m. $\sqrt{25600}$ n. $\sqrt{361000000}$

Answers

1a) b) c) d) ☐ 2a) 36 b) 100 c) 81 d) 121
e) 64 f) 225 g) 144 h) 400
3) 1, 4, 9, 16, 25, 36, 49, 64, 81, 100,
121, 144, 169, 196, 225, 256, 289,
324, 361, 400, 441, 484, 529, 576, 625
4a) 3 b) 1 c) 5 d) 7 e) 9 f) 0 g) 8 h) 12 i) 16 j) 14 k) 17 l) 20 m) 19 n) 13
o) 15 p) 21 q) 25 r) 18 s) 22 t) 24 u) 23
5) 25 2500 250000 25000000

900	40000	49000000	8100
360000	1600	36000000	640000
12100	1690000	44100	1000000

6) The following should be circled: 40000 6400 14400 360000 100000000

7) An even number of zeros must be present for the number to be a perfect square. *{Except if the number = 0}*

8a) 50 b) 90 c) 100 d) 800 e) 120 f) 1100 g) 1000 h) 70 i) 130 j) 1700 k) 240 l) 2500 m) 160 n) 19000