ESTIMATING SQUARE ROOTS

Name_____

★DO NOT USE A CALCULATOR FOR THIS PAPER......it is about estimating without a calculator

PART 1 – Square each number

$$2^2 =$$

$$3^2 =$$

$$4^2 =$$

$$5^2 =$$

$$6^2 =$$

$$7^2 =$$

$$8^2 =$$

$$9^2 =$$

$$10^2 =$$

$$11^2 =$$

$$12^2 =$$

PART 2 – Write the square root

$$\sqrt{81}$$
 =

$$\sqrt{36}$$
 =

$$\sqrt{144} =$$

$$\sqrt{9} =$$

$$\sqrt{64}$$
 =

$$\sqrt{4} =$$

$$\sqrt{100} =$$

$$\sqrt{16}$$
 =

PART 3 – What two numbers is the square root between?

Example: $\sqrt{27}$ is between <u>5</u> and <u>6</u>

(because 27 is between 25 and 36)

 $\sqrt{50}$ is between ____ and ____

 $\sqrt{72}$ is between ____ and ____

 $\sqrt{10}$ is between ____ and ____

 $\sqrt{139}$ is between and

 $\sqrt{19}$ is between ____ and ____

PART 4 – Which number is the square root closer to? Circle one.

Example:

Is $\sqrt{85}$ closer to **9** or **10**? (because 85 is closer to 81 than 100)

Is $\sqrt{20}$ closer to **4** or **5** ?

Is $\sqrt{97}$ closer to **9** or **10** ?

Is $\sqrt{125}$ closer to **11** or **12** ?

Is $\sqrt{15}$ closer to **3** or **4** ?

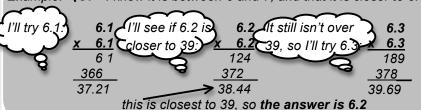
Is $\sqrt{40}$ closer to **6** or **7** ?

Is $\sqrt{70}$ closer to **8** or **9** ?

PART 5 - Estimate the square root to the nearest tenth.

Determine what numbers it is between & which it is closer to, then try squaring a few to see which is closest.

Example: $\sqrt{39}$ I know it is between 6 and 7, and that it is closer to 6.



 $\sqrt{72}$

$$\sqrt{15}$$

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PART 1 - Square each number

$$1^2 = 1$$

$$2^2 = 4$$

$$3^2 = 9$$

$$4^2 = 16$$

$$5^2 = 25$$

$$6^2 = 36$$

$$7^2 = 49$$

$$8^2 = 64$$

$$9^2 = 81$$

$$10^2 = 100$$

$$11^2 = |2|$$

$$12^2 = 144$$

PART 2 - Write the square root

$$\sqrt{81} = 9$$

$$\sqrt{36} = 6$$

$$\sqrt{144} = 12$$

$$\sqrt{9} = 3$$

$$\sqrt{64} = 8$$

$$\sqrt{4} = 2$$

$$\sqrt{100} = |0$$

$$\sqrt{16} = 4$$

PART 3 - What two numbers is the square root between?

Example: $\sqrt{27}$ is between $\underline{5}$ and $\underline{6}$

(because 27 is between 25 and 36)

 $\sqrt{50}$ is between $\underline{7}$ and $\underline{8}$

 $\sqrt{72}$ is between 8 and 9

 $\sqrt{10}$ is between 3 and 4

 $\sqrt{139}$ is between ____ and _____

 $\sqrt{19}$ is between $\underline{4}$ and $\underline{5}$

PART 4 – Which number is the square root closer to? Circle one.

Example:

Is $\sqrt{85}$ closer to 9 or 10 ? (because 85 is closer to 81 than 100)

Is $\sqrt{20}$ closer to 4 or 5?

Is $\sqrt{97}$ closer to **9** or **10**?

Is $\sqrt{125}$ closer to 11 or 12?

Is $\sqrt{15}$ closer to 3 or 4?

Is $\sqrt{40}$ closer to 6 or 7?

Is $\sqrt{70}$ closer to 8 or 9?

PART 5 - Estimate the square root to the nearest tenth.

Determine what numbers it is between & which it is closer to, then try squaring a few to see which is closest.

Example: $\sqrt{39}$ I know it is between 6 and 7, and that it is closer to 6.

I'll try 6.1: 6.1 I'll see if 6.2 is

6.2 It still isn't over

x 6.1 closer to 39: x 6.2 39, so I'll try 6.3: x 6.3 189

6 1 366 372 37.21 38.44

this is closest to 39, so the answer is 6.2

 $\sqrt{72}$

Between 8+9 a little closer to 8 8.4 ×84

× 8.5 42.5

378

39.69

 $\sqrt{15}$

Between 3+4 Much closer

3,9 × 3.9

× 3.8 304

Closer 1

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