

Estimating Square Roots Worksheet - Notes

A perfect square is

| | | | | | | | |
|---------|----------|----------|----------|----------|----------|----------|----------|
| $1^2 =$ | $2^2 =$ | $3^2 =$ | $4^2 =$ | $5^2 =$ | $6^2 =$ | $7^2 =$ | $8^2 =$ |
| $9^2 =$ | $10^2 =$ | $11^2 =$ | $12^2 =$ | $13^2 =$ | $14^2 =$ | $15^2 =$ | $16^2 =$ |

A square root is

| | | |
|----------------|----------------|----------------|
| $\sqrt{196} =$ | $\sqrt{256} =$ | $\sqrt{169} =$ |
|----------------|----------------|----------------|

For an integer that is not a perfect square you can estimate a square root.

Example 1: **What are the two whole numbers that are closest to $\sqrt{8}$?**

To solve this, you just need to find the two perfect squares that are directly above and below the number.
(Use a number line if you need to)

Example 2: **What are the two whole numbers that are closest to $\sqrt{135}$?**

Example 3: **What are the two whole numbers that are closest to $\sqrt{200}$?**

Example 4: **What are the two whole numbers that are closest to $\sqrt{192}$?**

Example 5: **What are the two whole numbers that are closest to $\sqrt{37}$?**

Estimating Square Roots Worksheet – Homework

1. What are the two whole numbers closest to $\sqrt{162}$?
2. What are the two whole numbers closest to $\sqrt{95}$?
3. What are the two whole numbers closest to $\sqrt{74}$?
4. What are the two whole numbers closest to $\sqrt{28}$?
5. What are the two whole numbers closest to $\sqrt{60}$?
6. What are the two whole numbers closest to $\sqrt{19}$?

MIXED REVIEW (USE TOOL KIT)

7. A video game is on sale for 25% off. The original price is \$42. What is the Discount? What is the sale price?
8. Solve for x: $3x - 18 = 42$
9. Solve for m: $x - \frac{1}{3} = \frac{2}{7}$
10. Find the distance and airplane travels if it goes 400 miles per hour for 3 hours.
11. Simplify $6^2 \times 6^3 =$
12. Simplify $8^{12} \div 8^7 =$
13. John invested \$400 in a savings account. How much interest will he earn in 5 years if the interest rate is 7%?
14. How do you find the slope of a line on a graph?
15. What is the Pythagorean Theorem used for? What is the formula?