

Name: _____ Hour: _____ Date: _____

NOTES: Section 9.1 – Square Roots

Goals: #1 - I can evaluate and approximate square roots.



Homework: Section 9.1 Worksheet

Exploration #1: Evaluate the following expressions.

1. $3^2 =$

2. $(-3)^2 =$

3. $5^2 =$

4. $(-5)^2 =$

What is the inverse operation of squaring a number?

Notes:

The inverse operation of squaring a number is finding a _____ of a number.

Square roots are written with a _____ symbol: $\sqrt{\quad}$

The number underneath the radical symbol is called the _____.

$$\sqrt{16}$$

Example #1: Evaluate the expression.

1. $\sqrt{64}$

2. $-\sqrt{64}$

3. $\pm\sqrt{64}$

4. $\sqrt{-64}$

You practice: Evaluate the expression.

1. $\pm\sqrt{100}$

2. $-\sqrt{25}$

3. $\sqrt{36}$

4. $\sqrt{16}$

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Notes:

A _____ is a number made by _____ a _____ number.

Perfect Squares:												

However, when we take the _____ of a number that is _____ a _____, we _____ the answer.

Example #2: Evaluate the expression. Give the exact value if possible. Otherwise, approximate to the nearest hundredth.

1. $-\sqrt{49}$ 2. $\sqrt{3}$ 3. $\sqrt{36}$ 4. $-\sqrt{8}$

Example #3: Evaluate $\sqrt{b^2 - 4ac}$ when $a = 1$, $b = -2$, and $c = -3$

You practice: Evaluate the expression. Give the exact value if possible. Otherwise, approximate to the nearest hundredth.

1. $\sqrt{100}$ 2. $-\sqrt{5}$ 3. $\sqrt{23}$ 4. $-\sqrt{81}$

5. Evaluate $\sqrt{b^2 - 4ac}$ when $a = -1$, $b = 8$, and $c = 20$

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Example #4: Evaluate the following expressions. Round the results to the nearest hundredth.

1. $6 \pm \sqrt{5}$

2. $4 \pm \sqrt{8}$

3. $\frac{2 \pm \sqrt{3}}{3}$

4. $\frac{2 \pm 3\sqrt{6}}{4}$

You practice: Evaluate the following expressions. Round the results to the nearest hundredth.

1. $8 \pm \sqrt{3}$

2. $-6 \pm 4\sqrt{2}$

3. $\frac{7 \pm 3\sqrt{2}}{-1}$

4. $\frac{1 \pm 2\sqrt{3}}{4}$