

11.1-11.7

Review

Property of Rational Numbers

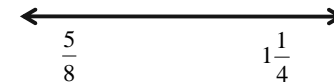
- You CAN change a number into a fraction
- It is a terminating decimal
- It is a nonterminating AND repeating decimal
- You CAN find the perfect square root of the radicand

Rational

Irrational

Finding numbers between fractions

Find the number one-fourth of the way from $\frac{5}{8}$ to $1\frac{1}{4}$.



Converting repeating decimals into fractions

1) $\overline{.63}$

Simplifying Square Roots

Product Property of Square Roots

$$\sqrt{a \cdot b} = \sqrt{a} \cdot \sqrt{b}$$

$$\sqrt{36}$$

$$-\sqrt{900}$$

Simplifying Square Roots

Quotient Property of
Square Roots

$$\sqrt{\frac{a}{b}} = \frac{\sqrt{a}}{\sqrt{b}}$$

$$\sqrt{\frac{36}{121}}$$

Simplifying Irrational Square Roots

$$3\sqrt{28}$$

$$7\sqrt{125}$$

Practice

$$3) \sqrt{(c^6)}$$

$$4) \sqrt{d^8}$$

No matter what d is,
 d^4 is always positive

When to Absolute Value Signs

If you simplify a root and the variable has an ODD exponent
PUT ABSOLUTE VALUE SIGNS
AROUND IT.

If you simplify a root and the variable has an EVEN exponent
LEAVE IT ALONE.

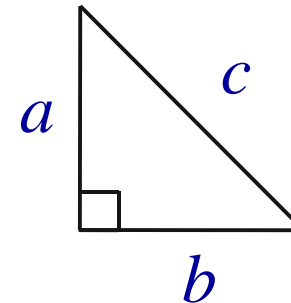
Practice

$$2) \sqrt{144x^2}$$

$$3) \sqrt{25n^{12}}$$

The Pythagorean Theorem:

$$a^2 + b^2 = c^2$$



Simplifying Summary

- Make sure you cannot divide the “radicand” by a perfect square (except for 1)
- No radicals can be in the denominator