

Simplifying Radicals... without a calculator

Ex. 24

- Step 1: Create a factor tree**
- If even: Divide by 2 until you can't anymore
 - If odd: Divide by an odd number starting with 3 until you get an even number. Then divide by 2 until you can't anymore.
- Step 2: Group outside number into "couples"**
- For every "couple," they get to come out of the house to go on a date.
 - For every number without a "date", they must stay in the house.
- Step 3: Simplify**
- Multiply outside #s. This stays outside of the house.
 - Multiply #s in the house. This stays under the house (radical).

Page 2

Simplifying Radicals... without a calculator

Ex. 120

- Step 1: Create a factor tree**
- If even: Divide by 2 until you can't anymore
 - If odd: Divide by an odd number starting with 3 until you get an even number. Then divide by 2 until you can't anymore.
- Step 2: Group outside number into "couples"**
- For every "couple," they get to come out of the house to go on a date.
 - For every number without a "date", they must stay in the house.
- Step 3: Simplify**
- Multiply outside #s. This stays outside of the house.
 - Multiply #s in the house. This stays under the house (radical).

Page 4

Simplifying Radicals... without a calculator

Ex. 27

- Step 1: Create a factor tree**
- If even: Divide by 2 until you can't anymore
 - If odd: Divide by an odd number starting with 3 until you get an even number. Then divide by 2 until you can't anymore.
- Step 2: Group outside number into "couples"**
- For every "couple," they get to come out of the house to go on a date.
 - For every number without a "date", they must stay in the house.
- Step 3: Simplify**
- Multiply outside #s. This stays outside of the house.
 - Multiply #s in the house. This stays under the house (radical).

Page 3

Simplifying Radicals... without a calculator

Ex. 76

- Step 1: Create a factor tree**
- If even: Divide by 2 until you can't anymore
 - If odd: Divide by an odd number starting with 3 until you get an even number. Then divide by 2 until you can't anymore.
- Step 2: Group outside number into "couples"**
- For every "couple," they get to come out of the house to go on a date.
 - For every number without a "date", they must stay in the house.
- Step 3: Simplify**
- Multiply outside #s. This stays outside of the house.
 - Multiply #s in the house. This stays under the house (radical).

Page 5