* Rational Exponent Property: the quantity of $x^{\frac{1}{2}}$ is the nth root of x.

$$ex.$$
) $\chi^{1/2} = \sqrt{\chi}$

*Properties of Exponents:

$$\mathbf{w} \left(\frac{p}{\sigma} \right)_{r} = \frac{p_{r}}{\sigma_{r}}$$

*
$$\frac{Q^{r}}{Q^{s}} = Q^{r-s}$$

1. Simplify using absolute values if necessary.

164 x4

8 xª

* First, rewrite the problem seperating the number from the variable.

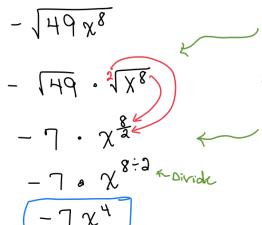
* Then take the Square root of the number.

* For the variable, make a fraction for the expanent.

· The exponent that was under T goes on top.

· Little exponent outside \ Goes on botton. (if no number outside, use "2")

2. Simplify.
$$-\sqrt{49\chi^8}$$



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(if no number outside, use "2")

3. Assume all variables are positive, and find the following root. $\sqrt[3]{343 \, \chi^3}$

$$\sqrt[3]{343} \times \sqrt[3]{\chi^3}$$
 $\sqrt[3]{343} \cdot \sqrt[3]{\chi^3}$
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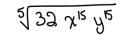
· The exponent that was under T goes on top.

· Little exponent outside \ Goes on botton. Lit no number outside, use "2")

To type into calculator:

- * type the little number outside the Γ first.
- * then press the "2nd" button
- * then press the "^" button
- * then typed in the number under the Γ
- * then press enter.

4. Assume all variables are positive, and find the following root.



- * First, rewrite the problem separating the number from the variable.
- * Then take the Square root of the number.
- * For the variable, make a fraction for the expanent.
 - · The exponent that was under T goes on top.
 - · Little expanent outside \(\tag{Goes} on bottom.

 (if no number outside, use "2")

5. Assume all variables are positive, and find the following root.

- * First, rewrite the problem separating the number from the variable.
- * Then take the Square root of the number.
- * For the variable, make a fraction for the expanent.
 - · The exponent that was under T goes on top.
- · Little exponent outside \(\tag{Goes} \) on bottom.

 Lit no number outside, use "2")

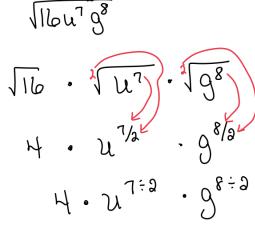
$$-2 \cdot \chi^{15 \div 3} \cdot \chi^{12 \div 3}$$

$$-2 \chi^{5} y^{4}$$

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7. Simplify. Assume variables are positive.

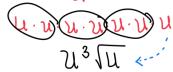
Tlou 2 98



- * First, rewrite the problem separating the number from the variable.
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 - Little exponent outside \(\tag{goes} on botton. (if no number outside, use "2")

4 · 23.5 - 94

cannot have a decimal in exponent. 30....
Rethink U7/2



4 94 13 Ju

for Rethink:

U 1/2

- write down the Variable the number of times the top # Says.
- "Then the bottom # tells you how many to put in a group + circle.
- · Court the circled groups, + that number becomes exponent.
- · any left overs go back under the

8. Simplify. Assume all variables are nonnegative.

cannot have a decimal in exponent. 30.... Rethink

* First, rewrite the problem separating the number From the variable.

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Q==

25 √Q <--

4.0510.676 405 b7 Tab

U 1/2

- write down the Variable the number of times the top # says.

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· Court the circled groups, + that number becomes expanent

· any left overs go back under the