$$\frac{3^{\frac{12}{5\cdot 2}} \cdot 3^{\frac{3}{10}}}{3^{\frac{2\cdot 2}{5\cdot 2}}} \rightarrow \frac{3^{\frac{5}{10}}}{3^{\frac{4}{10}}} \rightarrow \text{in clicker} \rightarrow 3^{\frac{1}{10}}$$

(a)

$30^{(1/10)}$

12.3

radicals

1) Simplify
2) multiply

} 12.3 D1+D2

$\sqrt[2]{4} \cdot \sqrt[2]{9} \Leftrightarrow \sqrt{36}$

$2 \cdot 3 = 6$

$6 = 6$

$\sqrt{36}$

$\sqrt{6^2}$

6

$\sqrt[3]{125}$

$\sqrt[3]{5^3}$

5

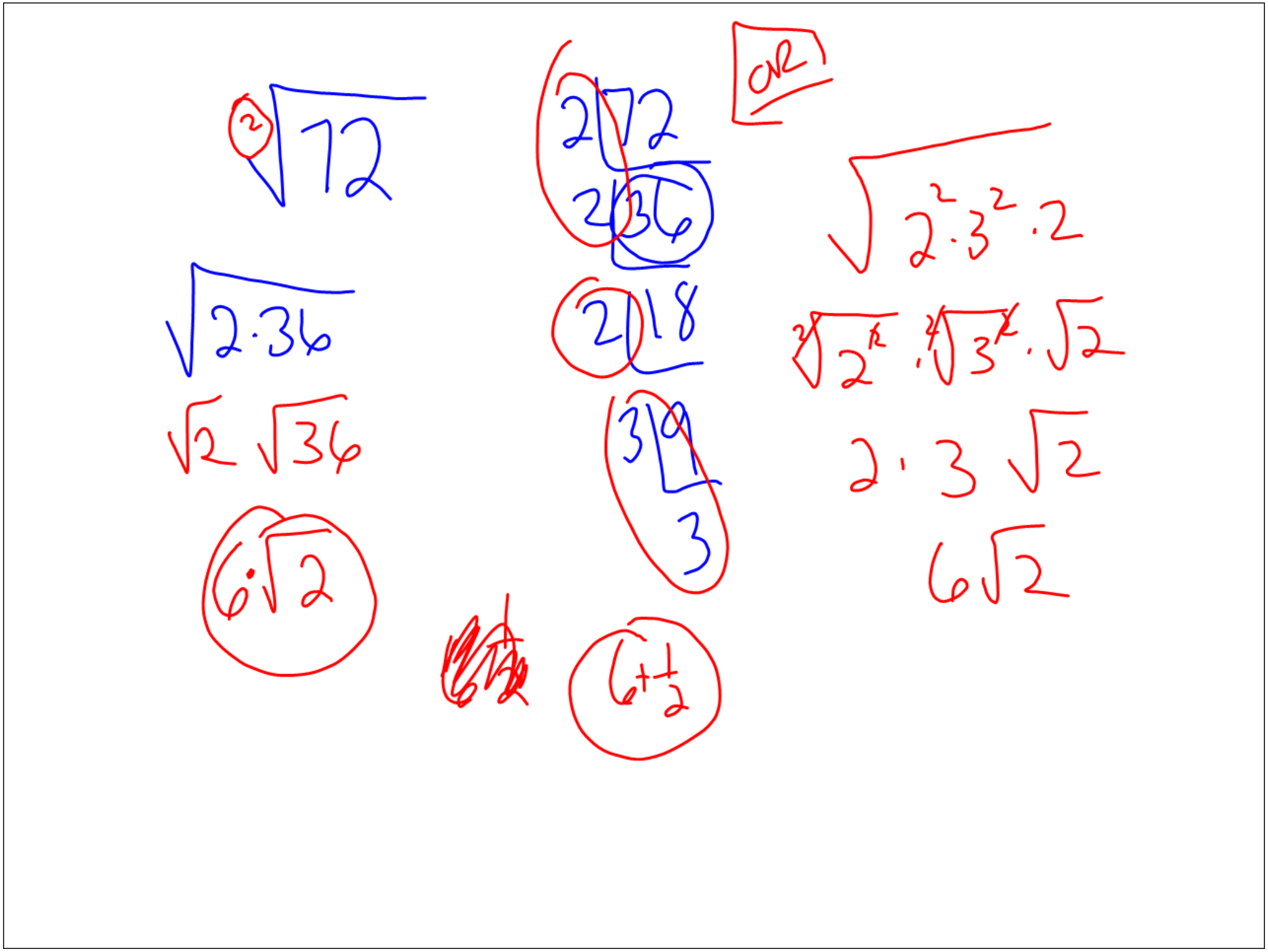
$\sqrt{8} = 8^{\frac{1}{2}}$

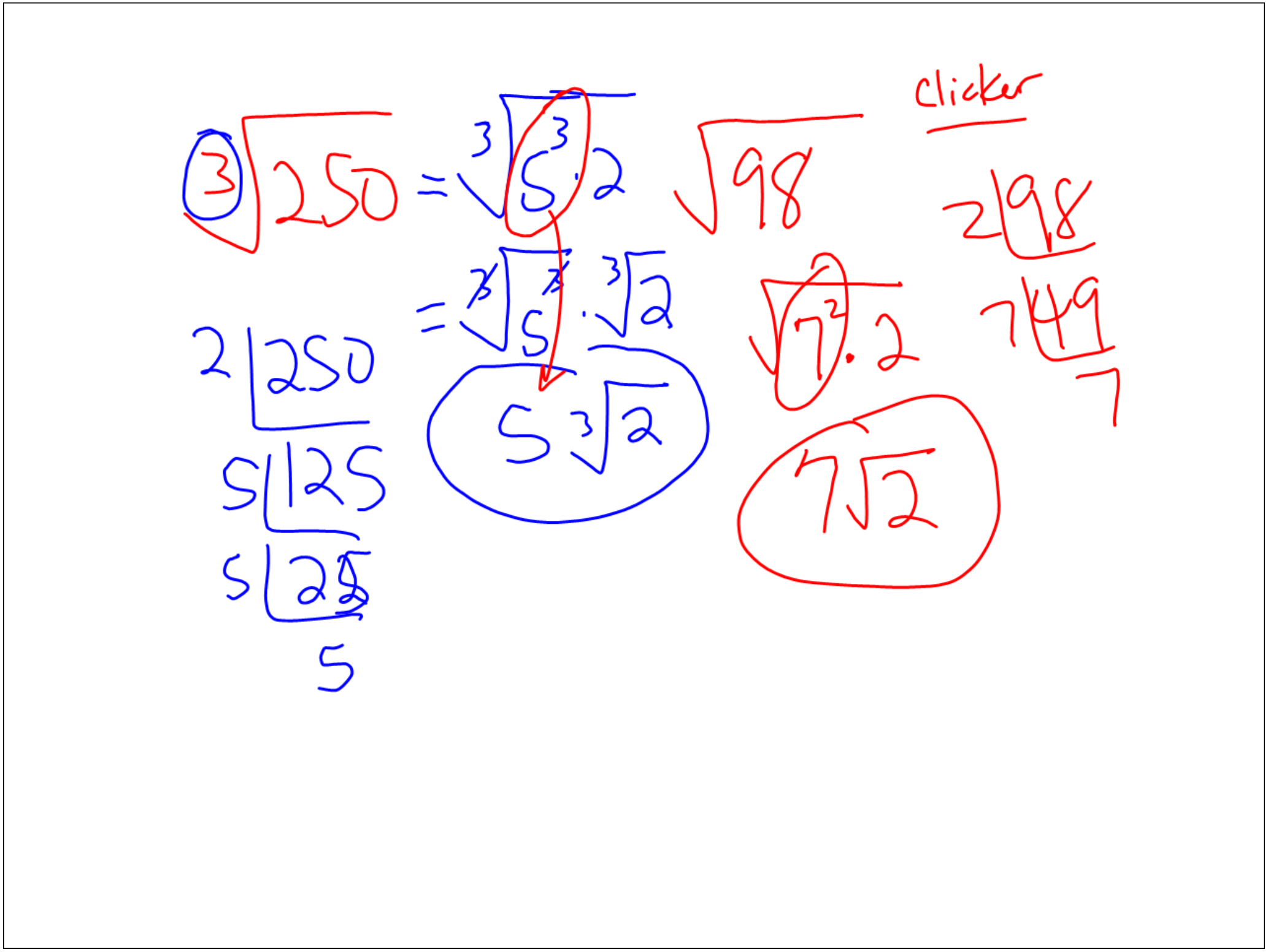
$\sqrt{4 \cdot 2}$

$\sqrt{4} \cdot \sqrt{2}$

$2\sqrt{2}$

$\sqrt{2}$


OR
$\sqrt{72}$
$\sqrt{2 \cdot 36}$
$\sqrt{2}\sqrt{36}$
$6\cdot\sqrt{2}$
2 | 72
2 | 36
2 | 18
3 | 9
3
$6+\frac{1}{2}$
$\sqrt{2^2 \cdot 3^2 \cdot 2}$
$\sqrt[2]{2^2} \cdot \sqrt[2]{3^2} \cdot \sqrt{2}$
$2 \cdot 3\sqrt{2}$
$6\sqrt{2}$


$\sqrt[3]{250} = \sqrt[3]{5^3 \cdot 2}$
$= \sqrt[3]{5^3} \cdot \sqrt[3]{2}$
$5\sqrt[3]{2}$
2|250
5|125
5|25
5
$\sqrt{98}$
clicker
2|98
7|49
7
$\sqrt{7^2 \cdot 2}$
$7\sqrt{2}$

$$\sqrt{x^2} = |x| = x$$

$$\sqrt[3]{x^3} = x$$

$$\sqrt[4]{x^{12}} \rightarrow \sqrt[4]{(x^3)^4} \rightarrow |x^3| = x^3$$

$$\sqrt[3]{x^{14}} = \sqrt[3]{x^{12} \cdot x^{2}}$$

$$\sqrt[3]{(x^{4})^{3} \cdot x^{2}}$$

$$\sqrt[3]{(x^{4})^{3}} \cdot \sqrt[3]{x^{2}}$$

$$x^{4} \sqrt[3]{x^{2}}$$

Assume Variables are +

$\sqrt[5]{y^{23}} \rightarrow y^{\frac{23}{5}}$

$\sqrt[6]{x^{13}}$

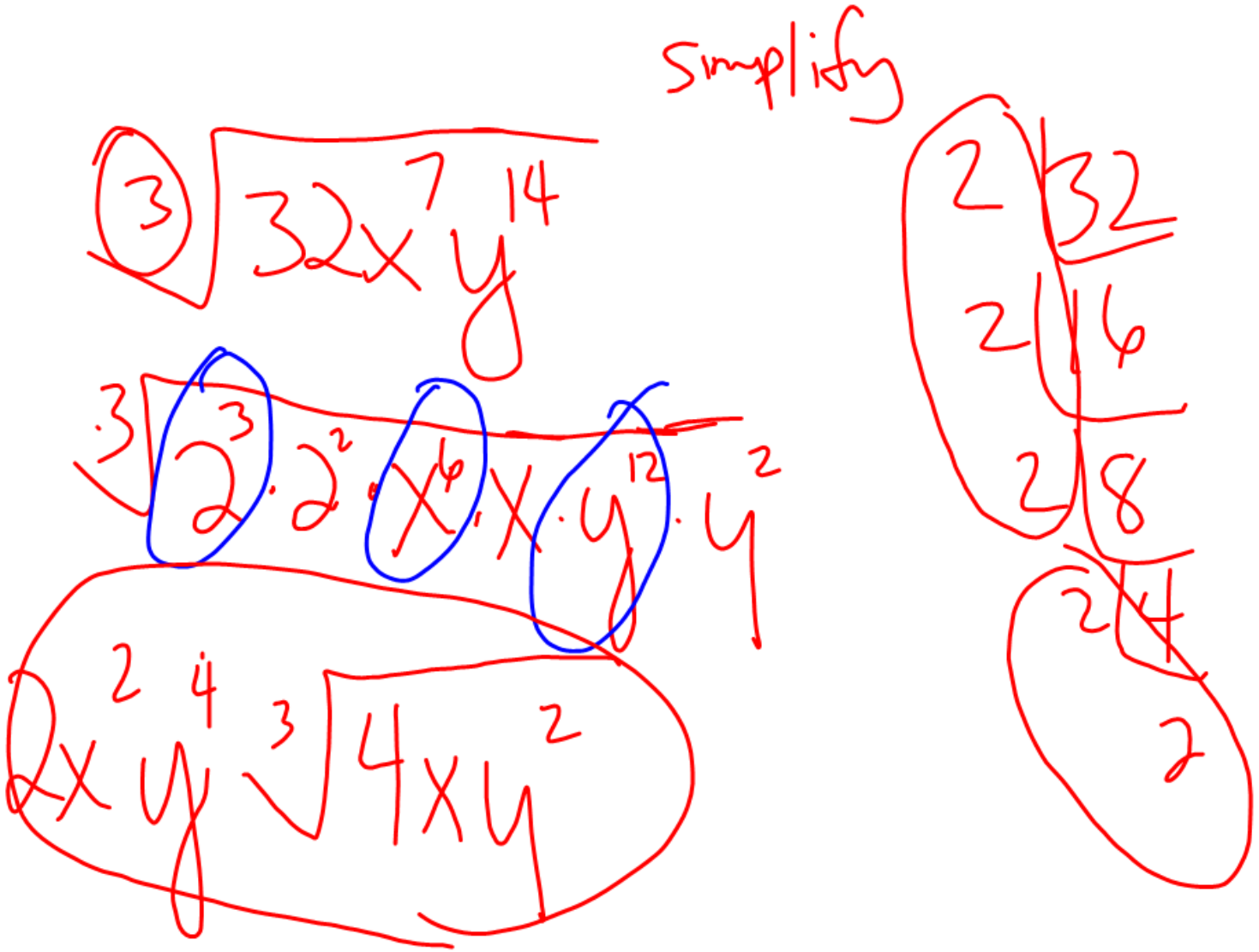
$\sqrt[5]{y^{20} \cdot y^{3}}$

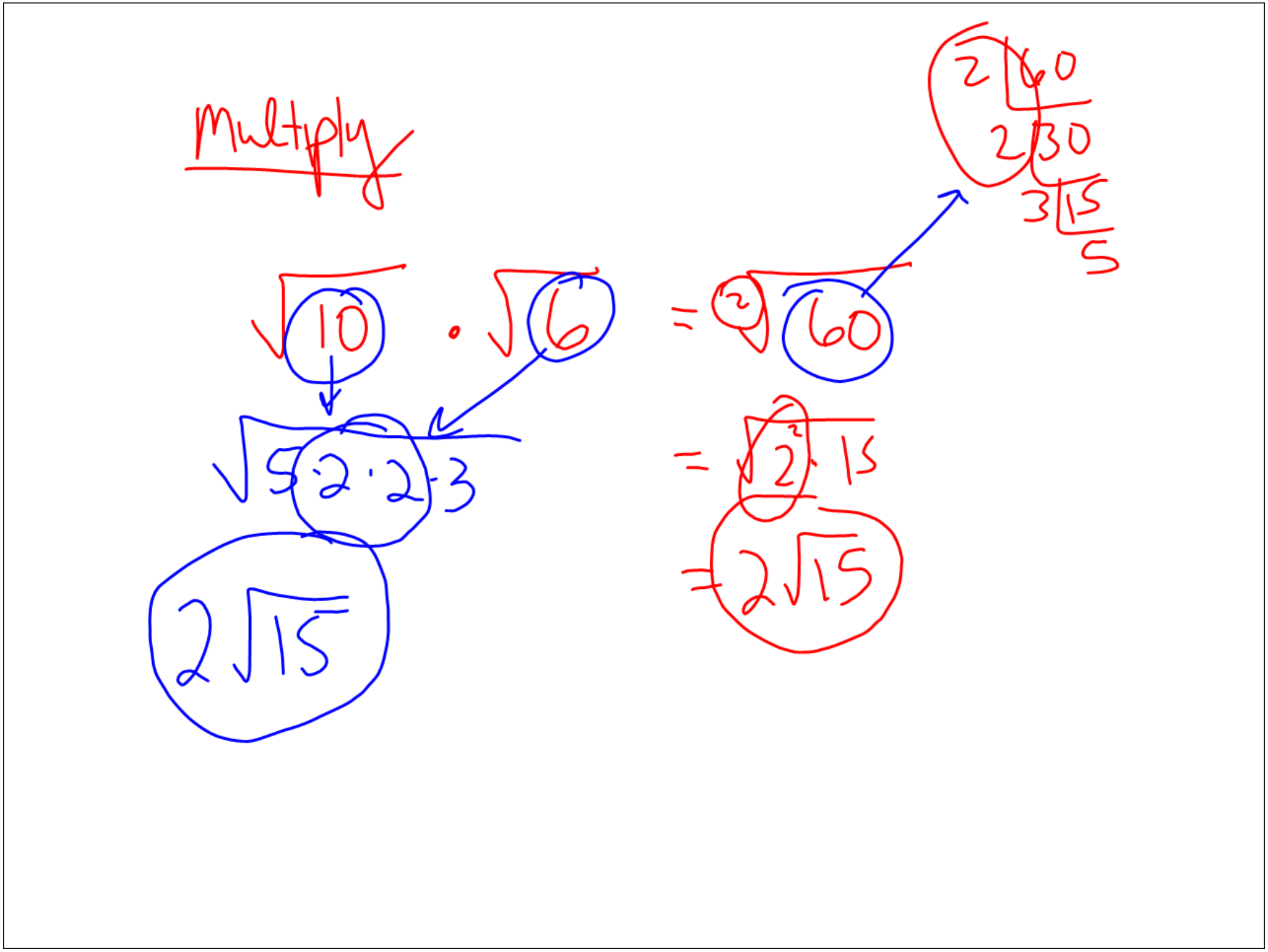
$\sqrt[4]{x^{12} \cdot x}$

$y^{4} \cdot \sqrt[5]{y^{3}}$

$x^{2} \cdot \sqrt[6]{x}$

Simplify




Multiply
√10 · √6
√5·2·2·3
2√15
= √60
2 | 60
2 | 30
3 | 15
5
= √2²·15
= 2√15

$$\sqrt[3]{4x^5} \cdot \sqrt[3]{50x^2}$$

$$\sqrt[3]{200x^7}$$

$$\sqrt[3]{2^3 \cdot 25 \cdot x^6 \cdot x}$$

$$2x^2\sqrt[3]{25x}$$

$200 = 2 \cdot 100 = 2 \cdot 2 \cdot 50 = 2 \cdot 2 \cdot 5 \cdot 25 = 2 \cdot 2 \cdot 5 \cdot 5 \cdot 5$

Simplify

$\sqrt{50x^3} \cdot \sqrt{18x^5}$

$\sqrt{25 \cdot 2 \cdot 2 \cdot 9 \cdot x^8}$

$5 \cdot 2 \cdot 3 x^4$

$30x^4$

$$\sqrt[5]{8x^4y^6z^2} \cdot \sqrt[5]{8x^1y^7z^4}$$

$$\sqrt[5]{2^3 \cdot 2^5 \cdot x^5 \cdot y^{10} \cdot y^3 \cdot z^5 \cdot z^1}$$

$$2xy^2z\sqrt[5]{2y^3z}$$

$$\sqrt[3]{(x-6)^{11}} \cdot \sqrt[3]{(x-6)^{7}}$$

$$\sqrt[3]{(x-6)^{8}}$$

$$(x-6)^{2}\sqrt[3]{(x-6)^{2}}$$

$$\sqrt[3]{(x-6)^{6}}\,(x-6)^{2}$$

$$\sqrt{3x^2-6x+3}$$

$$\sqrt{3(x^2-2x+1)}$$

$$\sqrt{3\cdot(x-1)^2}$$

$$\sqrt{3}\ \sqrt{(x-1)^2}$$

$$|x-1|\sqrt{3}$$

assume x is any Real #