

HW: Square Roots with Variables/2-38 even

Warm up:

Simplify.

$$x^3 \cdot x^3$$

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

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

$$3) \sqrt{x^6} = |x|^3$$

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

$$\sqrt{25} = 5$$

$$\sqrt{(5)^2} = 5$$

$$\sqrt{(-5)^2} = 5$$

$$\sqrt{x^4} = x^2$$

$$\sqrt{x^{14}} = |x|^7$$

$$\sqrt{x^{10} y^{12}}$$

$$1 \times |^5 y^6$$

$$\sqrt{20a^4b^{20}c^{14}}$$

$$2a^2b^{10}c^7\sqrt{5}$$

$$\sqrt{40} = \sqrt{4 \cdot 10} = 2\sqrt{10}$$

$$\sqrt{x^7} = \sqrt{x^6 \cdot x}$$

$|x|^3 \sqrt{x}$

$$\sqrt{50a^9b^3}$$

$$\sqrt{50} = 5\sqrt{2}$$

$$\begin{aligned}\sqrt{a^9} &= \sqrt{a^8 \cdot a} \\ &= a^4\sqrt{a}\end{aligned}$$

$$\begin{aligned}\sqrt{b^3} &= \sqrt{b^2 \cdot b} \\ &= b\sqrt{b}\end{aligned}$$

$$5a^4b\sqrt{2ab}$$

$$\sqrt{\frac{64g^{18}}{8100h^{20}}} = \frac{8|g|^9}{90h^{10}} = \frac{4|g|^9}{45h^{10}}$$

Solve

$$\sqrt{x^2} = \sqrt{16}$$

$$x = 4, -4$$

$$x = \pm 4$$

Solve.

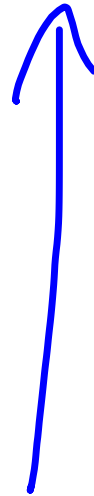
$$3x^2 - 2 = 25$$

$$\frac{3x^2 + 2}{3} = \frac{27}{3}$$

$$\sqrt{x^2} = \sqrt{9}$$

$$x = \pm 3$$

W A D I S M D



HW Solutions

$$\begin{aligned} \textcircled{9} \quad & 2\sqrt{48} \\ & 2\sqrt{4 \cdot 12} \\ & 4\sqrt{12} \\ & 4\sqrt{4 \cdot 3} \\ & \textcircled{8\sqrt{3}} \end{aligned}$$

$$\begin{aligned} \textcircled{10} \quad & 6\sqrt{108} \\ & 6\sqrt{9 \cdot 12} \\ & 18\sqrt{12} \\ & 18\sqrt{4 \cdot 3} \\ & \textcircled{36\sqrt{3}} \end{aligned}$$

$$\begin{aligned} \textcircled{11} \quad & 5\sqrt{72} \\ & 5\sqrt{9 \cdot 8} \\ & 15\sqrt{8} \\ & 15\sqrt{4 \cdot 2} \\ & \textcircled{30\sqrt{2}} \end{aligned}$$

$$\textcircled{4} \quad \sqrt{50} = \sqrt{25 \cdot 2}$$

$$\textcircled{5\sqrt{2}}$$

$$\textcircled{2} \quad \sqrt{28} = \sqrt{4 \cdot 7}$$

$$\textcircled{2\sqrt{7}}$$

$$\textcircled{13} \quad \sqrt{529} = 23$$

$$\textcircled{14} \quad \sqrt{324} \quad \sqrt{4 \cdot 81}$$
$$2 \cdot 9$$
$$\textcircled{18}$$

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$$\textcircled{3} \quad 2|x|\sqrt{7}$$

$$\sqrt{28x^2}$$

$$\textcircled{5} \quad -3c^2$$

$$2|x|\sqrt{7}$$

$$\textcircled{11} \quad 5r\sqrt{3r}$$

$$\textcircled{13} \quad \pm 3|xy|\sqrt{6y}$$

$$\textcircled{19} \quad \frac{x^2y^3}{2|r|}$$

$$\textcircled{3} \quad 0 = 81z^2 - 49$$

$$\frac{49}{81} = \frac{81z^2}{81}$$

$$\sqrt{\frac{49}{81}} = \sqrt{z^2}$$

$$\frac{7}{9} = z$$

24

$$\frac{\sqrt{y^2 - 8y + 16}}{\sqrt{(y-4)^2}}$$
$$|y-4|$$

March 18, 2022

