

$$\# \sqrt{\frac{10}{49}} \quad \left| \quad \sqrt{\frac{a}{b}} = \frac{\sqrt{a}}{\sqrt{b}} \right.$$

$$= \frac{\sqrt{10}}{\sqrt{49}} = \frac{\sqrt{10}}{\sqrt{7 \cdot 7}}$$

$$= \frac{\sqrt{10}}{7} = \frac{1}{7} \sqrt{10}$$

$$\#2 \sqrt{12 a^5 b^8}$$

$$= \sqrt{2 \cdot 2 \cdot 3 a^4 a b^6 b^2}$$

$$= 2 a^2 b^3 \sqrt{3 a}$$

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$$\#38 \quad \#12 \quad \sqrt[3]{250} + 7 \sqrt[3]{16}$$

$$= \sqrt[3]{5 \cdot 5 \cdot 5 \cdot 2} + 7 \sqrt[3]{2 \cdot 2 \cdot 2 \cdot 2}$$

$$= 5 \sqrt[3]{2} + 14 \sqrt[3]{2}$$

$$= 19 \sqrt[3]{2}$$

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$$\#34 \quad 3\sqrt{5} + 4\sqrt{5}$$

$$= 7\sqrt{5}$$

$$\#36 \text{ or } \#15 \quad \sqrt{3}(5\sqrt{21} + 9)$$

$$= 5\sqrt{63} + 9\sqrt{3}$$

$$= 5\sqrt{3 \cdot 3 \cdot 7} + 9\sqrt{3}$$

$$= 15\sqrt{7} + 9\sqrt{3}$$

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$$\#19 \text{ or } \#40 \quad \left| \quad \sqrt[n]{b^m} = b^{\frac{m}{n}} \right.$$

$$40^{\frac{1}{2}} \quad b=40 \quad m=1 \quad n=2$$

$$= \sqrt{40} = \sqrt{40}$$

$$\#41 \quad \sqrt[5]{x^3} = x^{\frac{3}{5}}$$

$$\#42 \quad \sqrt[2]{a^3 x^2 y} = \sqrt{a^3} \sqrt{x^2} \sqrt{y}$$

$$= a^{\frac{3}{2}} x y^{\frac{1}{2}}$$

Second order

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Rationalize the denominator

$$\#44 \quad \frac{4}{\sqrt{5}} \cdot \frac{\sqrt{5}}{\sqrt{5}} = \frac{4\sqrt{5}}{5}$$

Name the transformation

$$y = \sqrt{x-5}$$

$$y = a\sqrt{x-h} + k$$

5 units to right

$a=1$
 $h=5$
 $k=0$

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$$y = -\sqrt{x} + 4$$

$$y = a\sqrt{x-h} + k$$

4 units up and reflection around y-axis

$a=-1$
 $h=0$
 $k=4$

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#47 Solve for K

$$\sqrt{2K+40} = \sqrt{-16-2K}$$

square Both Sides

$$(\sqrt{2K+40})^2 = (\sqrt{-16-2K})^2$$

$$2K+40 = -16-2K$$

$$\begin{array}{r} +2K \\ +2K \end{array}$$

$$\begin{array}{r} 4K+40 = -16 \\ -40 \quad -40 \end{array}$$

$$4K = -56$$

$$K = \frac{-56}{4} = \boxed{-14}$$

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#48 Solve for V

$$90 = 9\sqrt{25V}$$

$$\frac{90}{9} = \sqrt{25V} \quad \text{divid by 9}$$

$$10 = \sqrt{25V}$$

$$(10)^2 = (\sqrt{25V})^2 \quad \text{square both sides}$$

$$100 = 25V$$

divid by 25

$$\frac{100}{25} = V$$

$$\boxed{4} = V \text{ or } \boxed{V = 4}$$

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