

899 \sum 7. 4# 5 1, 5, 9, ..., 76 ish

#5 1 - 44 Add or subtract.

$$\begin{aligned} \textcircled{1} \quad \sqrt{8} - \sqrt{32} &= \sqrt{4 \cdot 2} - \sqrt{16 \cdot 2} = 2\sqrt{2} - 4\sqrt{2} = \\ &= \boxed{-2\sqrt{2}} \end{aligned}$$

$$\begin{aligned} \textcircled{5} \quad 2\sqrt{50} - 3\sqrt{125} + \sqrt{98} \\ &= 2\sqrt{25 \cdot 2} - 3\sqrt{25 \cdot 5} + \sqrt{49 \cdot 2} \\ &= 2 \cdot 5\sqrt{2} - 3 \cdot 5\sqrt{5} + 7\sqrt{2} \\ &= 10\sqrt{2} - 15\sqrt{5} + 7\sqrt{2} = \boxed{17\sqrt{2} - 15\sqrt{5}} \end{aligned}$$

$$\begin{aligned} \textcircled{9} \quad \sqrt{9b^3} - \sqrt{25b^3} + \sqrt{49b^3} \\ &= \sqrt{9b^2 \cdot b} - \sqrt{25b^2 \cdot b} + \sqrt{49b^2 \cdot b} \\ &= 3b\sqrt{b} - 5b\sqrt{b} + 7b\sqrt{b} = \boxed{5b\sqrt{b}} \end{aligned}$$

$$\begin{aligned} \textcircled{13} \quad \sqrt[3]{\frac{11}{8}} - \frac{\sqrt[3]{11}}{6} &= \frac{\sqrt[3]{11}}{2} - \frac{\sqrt[3]{11}}{6} \\ &= \frac{\sqrt[3]{11}}{2} \cdot \frac{3}{3} - \frac{\sqrt[3]{11}}{6} = \frac{3\sqrt[3]{11} - \sqrt[3]{11}}{6} = \frac{2\sqrt[3]{11}}{6} \\ &= \boxed{\frac{\sqrt[3]{11}}{3}} \end{aligned}$$

099 $\int 7.4 \# 5$ 17, 21, ..., 76ish

$$(17) 7\sqrt{9} - 7 + \sqrt{3}$$

$$= 7 \cdot 3 - 7 + \sqrt{3} = 21 - 7 + \sqrt{3} = \boxed{14 + \sqrt{3}}$$

$$(21) 3\sqrt{108} - 2\sqrt{18} - 3\sqrt{48}$$

$$= 3\sqrt{2^2 \cdot 3^3} - 2\sqrt{9 \cdot 2} - 3\sqrt{2^4 \cdot 3}$$

$$= 3 \cdot 2 \cdot 3\sqrt{3} - 2 \cdot 3\sqrt{2} - 3 \cdot 2^2\sqrt{3}$$

$$= 18\sqrt{3} - 6\sqrt{2} - 12\sqrt{3} = \boxed{6\sqrt{3} - 6\sqrt{2}}$$

$$2 \overline{)108}$$

$$2 \overline{)54}$$

$$\textcircled{27}$$

$\rightarrow 3^3$

$$2 \overline{)48}$$

$$2 \overline{)24}$$

$$2 \overline{)12}$$

$$2 \overline{)6}$$

$$3$$

$$(25) \sqrt{9b^3} - \sqrt{25b^3} + \sqrt{16b^3}$$

$$= \sqrt{9b^2b} - \sqrt{25b^2b} + \sqrt{16b^2b}$$

$$= 3b\sqrt{b} - 5b\sqrt{b} + 4b\sqrt{b} = \boxed{-12b\sqrt{b}}$$

$$(29) \sqrt[3]{54xy^3} - 5\sqrt[3]{2xy^3} + y\sqrt[3]{128x}$$

$$2 \overline{)54}$$

$$\textcircled{27}$$

$\rightarrow 3^3$

$$2 \overline{)128}$$

$$\textcircled{64}$$

$\rightarrow 4^3$

$$= \sqrt[3]{3^3 \cdot 2xy^3} - 5y\sqrt[3]{2xy^3} + y\sqrt[3]{4^3 \cdot 2x}$$

$$= 3y\sqrt[3]{2x} - 5y\sqrt[3]{2x} + 4y\sqrt[3]{2x} = \boxed{2y\sqrt[3]{2x}}$$

099 $\int 7.3 \# 33, 37, \dots, 76, 136$

$$(33) -2\sqrt[4]{x^7} + 3\sqrt[4]{16x^7}$$

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

$$= -2x\sqrt[4]{x^3} + 3 \cdot 2x\sqrt[4]{x^3}$$

$$= -2x\sqrt[4]{x^3} + 6x\sqrt[4]{x^3} = \boxed{4x\sqrt[4]{x^3}}$$

$$(37) \frac{\sqrt[3]{8x^4}}{7} + \frac{3x\sqrt[3]{x}}{7} = \frac{2x\sqrt[3]{x}}{7} + \frac{3x\sqrt[3]{x}}{7}$$

$$= \boxed{\frac{5x\sqrt[3]{x}}{7}}$$

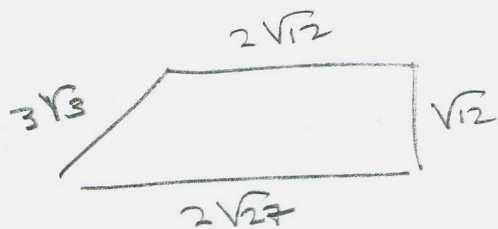
$$(41) \sqrt[3]{\frac{16}{27}} - \frac{\sqrt[3]{54}}{6} = \frac{\sqrt[3]{16}}{\sqrt[3]{27}} - \frac{\sqrt[3]{27 \cdot 2}}{6} =$$

$$\frac{\sqrt[3]{2^3 \cdot 2}}{3} - \frac{3\sqrt[3]{2}}{6} = \frac{2\sqrt[3]{2}}{3} - \frac{3\sqrt[3]{2}}{6} =$$

$$\frac{2\sqrt[3]{2}}{3} \cdot \frac{2}{2} - \frac{3\sqrt[3]{2}}{6} = \frac{4\sqrt[3]{2} - 3\sqrt[3]{2}}{6} = \boxed{\frac{\sqrt[3]{2}}{6}}$$

099 § 7.4 #5 45, 49, ..., 76.3h

(45) Find perimeter of the trapezoid



$$3\sqrt{3} + 2\sqrt{2} + \sqrt{2} + 2\sqrt{27}$$

$$= 3\sqrt{3} + 3\sqrt{2} + 2\sqrt{9 \cdot 3}$$

$$= 3\sqrt{3} + 3\sqrt{4 \cdot 3} + 2 \cdot 3\sqrt{3}$$

$$= 3\sqrt{3} + 3 \cdot 2\sqrt{3} + 6\sqrt{3}$$

$$= 3\sqrt{3} + 6\sqrt{3} + 6\sqrt{3}$$

$$= \boxed{15\sqrt{3} \text{ inches}}$$

(49) Multiply & simplify

$$(a-b)^2 = a^2 - 2ab + b^2$$

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

$$= 5 - 2\sqrt{10} + 2 = \boxed{7 - 2\sqrt{10}}$$

$$(53) (2\sqrt{x} - 5)(3\sqrt{x} + 1)$$

$$= 6\sqrt{x}\sqrt{x} + 2\sqrt{x} - 15\sqrt{x} - 5$$

$$= \boxed{6x - 13\sqrt{x} - 5}$$

$$(57) 6(\sqrt{2} - 2) = \boxed{6\sqrt{2} - 12}$$

099 § 7.4 #5 61, 65, 69, 73

$$(61) (2\sqrt{7} + 3\sqrt{5})(\sqrt{7} - 2\sqrt{5})$$

$$= 2\sqrt{7}\sqrt{7} - 4\sqrt{7}\sqrt{5} + 3\sqrt{5}\sqrt{7} - 6\sqrt{5}\sqrt{5}$$

$$= 14 - 4\sqrt{35} + 3\sqrt{35} - 30$$

$$= \boxed{-16 - \sqrt{35}} \quad (a+b)^2 = a^2 + 2ab + b^2$$

$$(65) (\sqrt{3} + x)^2 = (\sqrt{3})^2 + 2(\sqrt{3})x + x^2$$

$$= \boxed{3 + 2x\sqrt{3} + x^2}$$

$$(69) (\sqrt[3]{4} + 2)(\sqrt[3]{2} - 1)$$

$$= \sqrt[3]{4}\sqrt[3]{2} - \sqrt[3]{4} + 2\sqrt[3]{2} - 2$$

$$= \sqrt[3]{8} - \sqrt[3]{4} + 2\sqrt[3]{2} - 2$$

$$= 2 - \sqrt[3]{4} + 2\sqrt[3]{2} - 2 = \boxed{2\sqrt[3]{2} - \sqrt[3]{4}}$$

$$(73) (\sqrt{x-1} + 5)^2 = (\sqrt{x-1})^2 + 2(\sqrt{x-1})(5) + 5^2$$

$$= x-1 + 10\sqrt{x-1} + 25 = \boxed{x + 10\sqrt{x-1} + 24}$$