$\sqrt{32}$

$\sqrt{16}\sqrt{2}$

$4\sqrt{2}$

$\sqrt{72}$

$\sqrt{9}\sqrt{8}$

$3\sqrt{8}$

$3\sqrt{4}\sqrt{2}$

$3 \cdot 2\sqrt{2}$

$6\sqrt{2}$

$\sqrt{36}\sqrt{2}$

$6\sqrt{2}$

$1^3 = 1$

$2^3 = 8$

$3^3 = 27$

$4^3 = 64$

$5^3 = 125$

$6^3 = 216$

ex.1 Simplify $\sqrt{16p^8q^7}$

$\sqrt{16}\ \sqrt{p^8}\ \sqrt{q^7}$

$\sqrt{q^7} = \sqrt{q^6}\sqrt{q}$

$4p^4|q^3|\sqrt{q}$

ex.2 $\sqrt[3]{32x^6y^9}$

$\sqrt[3]{32}\ \sqrt[3]{x^6}\ \sqrt[3]{y^9}$

$\sqrt[3]{8}\sqrt[3]{4}$

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

$\sqrt{36r^5s^{10}}$

$\sqrt{36}\ \sqrt{r^5}\ \sqrt{s^{10}}$

$\sqrt{r^5} = \sqrt{r^4}\sqrt{r}$

$6r^2|s^5|\sqrt{r}$

$2x + 5x$

$7x$

$3x^2 + 9x^2$

$12x^2$

$2\sqrt{5} + 5\sqrt{5}$

$7\sqrt{5}$

$3\sqrt[3]{7} + 2\sqrt[3]{7}$

$5\sqrt[3]{7}$

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3 Simplify $2\sqrt{12} - 3\sqrt{27} + 2\sqrt{48}$.

$2\sqrt{4}\sqrt{3} - 3\sqrt{9}\sqrt{3} + 2\sqrt{16}\sqrt{3}$

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

$4\sqrt{3} - 9\sqrt{3} + 8\sqrt{3}$

$3\sqrt{3}$

$4x - 9x + 8x$

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