

Simplify.

$$\begin{aligned} & \sqrt[4]{12} + 7\sqrt[5]{50} - 8\sqrt[6]{48} - 3\sqrt[4]{128} \\ & \sqrt[4]{4 \cdot 3} \quad \sqrt[5]{25 \cdot 2} \quad \sqrt[6]{16 \cdot 3} \quad \sqrt[4]{64 \cdot 2} \\ & = 2\sqrt{3} + 35\sqrt{2} - 32\sqrt{3} - 24\sqrt{2} \\ & = \boxed{-30\sqrt{3} + 11\sqrt{2}} \end{aligned}$$

Simplify.

$$\begin{aligned} & 5\sqrt[3]{54} - 2\sqrt[3]{250} + 7\sqrt[3]{16} \\ & \sqrt[3]{27 \cdot 2} \quad \sqrt[3]{125 \cdot 2} \quad \sqrt[3]{8 \cdot 2} \\ & = 15\sqrt[3]{2} - 10\sqrt[3]{2} + 14\sqrt[3]{2} \\ & = \boxed{19\sqrt[3]{2}} \end{aligned}$$

8
27
64
125

Simplify.

$$4\sqrt{5}(7\sqrt{3} - 2\sqrt{5})$$

$$= 28\sqrt{15} - 8 \cdot 5$$

$$= \boxed{28\sqrt{15} - 40}$$

Simplify.

$$(9 + \sqrt{6})(2 - 5\sqrt{6})$$

	9	$+\sqrt{6}$
2	18	$+2\sqrt{6}$
$-5\sqrt{6}$	$-45\sqrt{6}$	-30

$$= \boxed{-12 - 43\sqrt{6}}$$

Simplify.

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

$$21 - 3\sqrt{5} + 7\sqrt{2} - \sqrt{10}$$

	7	$-\sqrt{5}$
3	21	$-3\sqrt{5}$
$\sqrt{2}$	$7\sqrt{2}$	$-\sqrt{10}$