Tercero Medio Módulo 8

I.- 1) $2\sqrt{2} - 4\sqrt{2} + \sqrt{2} = \boxed{-\sqrt{2}}$

2) $3\sqrt[4]{5} - 2\sqrt[4]{5} - \sqrt[4]{5}$

$\sqrt[4]{5} - \sqrt[4]{5} = \boxed{0}$

3) $\sqrt{12} - 3\sqrt{3} + 2\sqrt{75}$

$\sqrt{4 \cdot 3} - 3\sqrt{3} + 2\sqrt{25 \cdot 3}$

$2\sqrt{3} - 3\sqrt{3} + 2 \cdot 5\sqrt{3}$

$2\sqrt{3} - 3\sqrt{3} + 10\sqrt{3}$

$\boxed{9\sqrt{3}}$

4) $2\sqrt{12} - 3\sqrt{75} + \sqrt{27}$

$2\sqrt{4 \cdot 3} - 3\sqrt{25 \cdot 3} + \sqrt{9 \cdot 3}$

$2 \cdot \sqrt{3} \qquad 5\sqrt{3}$

$4\sqrt{3} - 15\sqrt{3} + 3\sqrt{3} = \boxed{-8\sqrt{3}}$

5) $\sqrt{24} - 5\sqrt{6} + \sqrt{486}$

$\sqrt{6 \cdot 4} - 5\sqrt{6} + \sqrt{81 \cdot 6}$

$2\sqrt{6} - 5\sqrt{6} + 9\sqrt{6} = \boxed{6\sqrt{6}}$

6) $2\sqrt{5} + \sqrt{45} + \sqrt{180} - \sqrt{80}$

$2\sqrt{5} + \sqrt{9 \cdot 5} + \sqrt{36 \cdot 5} - \sqrt{16 \cdot 5}$

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

7) $\sqrt[3]{54} - \sqrt[3]{16} + \sqrt[3]{250}$

$\sqrt[3]{27 \cdot 2} - \sqrt[3]{8 \cdot 2} + \sqrt[3]{125 \cdot 2}$

$3\sqrt[3]{2} - 2\sqrt[3]{2} + 5\sqrt[3]{2} = \boxed{6\sqrt[3]{2}}$

II a) $\sqrt{4 \cdot 16} = 2 \cdot 4 = 8$

b) $\sqrt{25 \cdot 36} = 5 \cdot 6 = 30$

c) $\sqrt{144 \cdot 25} = 12 \cdot 5 = 60$

d) $\sqrt{a^2 \cdot b^2} = a\,b$

e) $\sqrt[3]{8 \cdot 27 \cdot 125} = 2 \cdot 3 \cdot 5 = 30$

f) $\sqrt[3]{a^3 \cdot b^3} = a \cdot b$

g) $\sqrt[3]{a^6 \cdot b^3 \cdot c^6 \cdot d^3} = a^2 \cdot b \cdot c^2 \cdot d$