

TAREA No. 8.

$$1) 3 \sqrt{80} + 4 \sqrt{63} - 6 \sqrt{180} - 4 \sqrt{7}$$

$$\begin{array}{r} 80 \overline{) 4} \\ 40 \overline{) 2} \\ 20 \overline{) 2} \\ 10 \overline{) 2} \\ 5 \overline{) 5} \\ 1 \end{array}$$

$$2^4 \cdot 5$$

$$\sqrt{2^4 \cdot 2^2 \cdot 5}$$

$$2 \cdot 2 \sqrt{5} = 4 \sqrt{5} = 12 \sqrt{5}$$

$$\begin{array}{r} 63 \overline{) 3} \\ 21 \overline{) 3} \\ 7 \overline{) 7} \end{array}$$

$$= 1 \cdot 3^2 \cdot 7 = 3^2 \cdot 7 = 7 \cdot 5$$

$$3 \sqrt{7}$$

$$= 3 \cdot 4 \sqrt{7} =$$

$$12 \sqrt{7}$$

$$\begin{array}{r} 180 \overline{) 2} \\ 90 \overline{) 2} \\ 45 \overline{) 3} \\ 15 \overline{) 3} \\ 5 \overline{) 5} \end{array}$$

$$2^2 \cdot 3^2 \cdot 5$$

$$\sqrt{2^2 \cdot 3^2 \cdot 5} =$$

$$2 \cdot 3 \sqrt{5} = 6 \sqrt{5} = 6 \cdot 6 \sqrt{5} =$$

$$-36 \sqrt{5}$$

$$-4\sqrt{7}$$

$$12\sqrt{5} + 12\sqrt{7} - 36\sqrt{5} - 4\sqrt{7}$$

$$12\sqrt{5} - 36\sqrt{5} = -24\sqrt{5}$$

$$12\sqrt{7} - 4\sqrt{7} = 8\sqrt{7}$$

$$\text{R// } -24\sqrt{5} + 8\sqrt{7} //$$

$$2) 5^3\sqrt{ab^2} - 4^3\sqrt{ab^2} - 8^3\sqrt{ab^2} - 12^3\sqrt{ab^2}$$

$$125\sqrt{ab^2} - 64\sqrt{ab^2} - 512\sqrt{ab^2} - 1728\sqrt{ab^2}$$

$$125\sqrt{ab^2} - 64\sqrt{ab^2} - 1728\sqrt{ab^2} =$$

$$\text{R// } -15^3\sqrt{ab^2} - 4^3\sqrt{ab^2} //$$

$$3) 3^3\sqrt{2xy^2} - 3\sqrt{18x^3} - (x+2y)\sqrt{2x}$$

$$3\sqrt{2}\sqrt{x}\sqrt{y^2} - 3\sqrt{18}\sqrt{x^3} - (x+2y)\sqrt{2}\sqrt{x}$$

$$3\sqrt{2}\sqrt{xy} - 3 \times 3\sqrt{2}\sqrt{x^3} - \sqrt{2}\sqrt{x}(x+2y)$$

$$3\sqrt{2}\sqrt{xy} - 9\sqrt{2x^3} - \sqrt{2}\sqrt{x}(x+2y)$$

$$\sqrt{2x}(3y - 9x - (x+2y))$$

$$\sqrt{2x(3y - 9x - x - 2y)}$$

$$R//. \sqrt{2x(y - 10x)} //$$

$$④ \quad 7\sqrt{80} - 2\sqrt{800} - 5\sqrt{320} - \sqrt{450}$$

$$\begin{array}{r|l} 80 & 2 \\ 40 & 2 \\ 20 & 2 \\ 10 & 2 \\ 5 & 5 \\ 1 & \end{array}$$

$$= 2^4 \cdot 5$$

$$= \sqrt{2^4 \cdot 2^4 \cdot 5} =$$

$$2 \cdot 2 \sqrt{5} = 4 \cdot 7 \sqrt{5} = \underline{\underline{28\sqrt{5}}}$$

$$\begin{array}{r|l} 800 & 2 \\ 400 & 2 \\ 200 & 2 \\ 100 & 2 \\ 50 & 2 \\ 25 & 5 \\ 5 & 5 \\ 1 & \end{array}$$

$$= 2^5 \cdot 5^2$$

$$2^2 \cdot 2^2 \cdot 2^1 \cdot 5^2 =$$

$$\sqrt{2^4 \cdot 2^4 \cdot 2^1 \cdot 5^4} = 2 \cdot 2 \cdot 5 \sqrt{2} =$$

$$20 \cdot 2 \sqrt{10} = \underline{\underline{-40\sqrt{2}}}$$

$$\begin{array}{r|l}
 3 & 202 \\
 16 & 02 \\
 80 & 2 \\
 40 & 2 \\
 20 & 2 \\
 10 & 2 \\
 5 & 5 \\
 1 &
 \end{array}
 = 2^6 \cdot 5 = 2^2 \cdot 2^5 \cdot 5 = 2^2 \cdot 2^2 \cdot 2^2 \cdot 5$$

$$\sqrt{2^2 \cdot 2^2 \cdot 2^2 \cdot 5} = 2 \cdot 2 \cdot 2 \sqrt{5} =$$

$$8 \cdot 5 \sqrt{5} = \underline{\underline{-40 \sqrt{5}}}$$

$$\begin{array}{r|l}
 45 & 02 \\
 22 & 53 \\
 75 & 3 \\
 25 & 5 \\
 5 & 5 \\
 1 &
 \end{array}
 = 2 \cdot 3^2 \cdot 5^2 \quad \sqrt{2 \cdot 3^2 \cdot 5^2}$$

$$3 \cdot 5 \sqrt{2} = \underline{\underline{-15 \sqrt{2}}}$$

$$28 \sqrt{5} - 40 \sqrt{2} - 40 \sqrt{5} - 15 \sqrt{2}$$

$$-40 \sqrt{5} + 28 \sqrt{5} = -12 \sqrt{5}$$

$$-40 \sqrt{2} - 15 \sqrt{2} = 55 \sqrt{5}$$

$$R// \underline{\underline{-12 \sqrt{5} + 55 \sqrt{5}}}$$