Do Elephants Know How to Gamble?

Simplify each expression below. Assume that each radicand is nonnegative. Find your answer in the corresponding set of answer boxes. Print the letter of the exercise in the box above the answer.

(T) $\sqrt{9x^2}$

(E) $-\sqrt{49x^2}$

(A) $\sqrt{4x^2y^2}$

(H) $\sqrt{12x^2}$

(O) $-\sqrt{45x^2}$

(T) $\sqrt{25y^4}$

(D) $\sqrt{7x^2y}$

(H) $\sqrt{9x^2y^4}$

(N) $\sqrt{24x^4y^2}$

(E) $-\sqrt{28x^4}$

(Y) $\sqrt{16xy^2}$

(V) $-\sqrt{20xy^2}$

Answer boxes: $5y^2$ | $2|x|\sqrt{3}$ | $-7|x|$ | $4|y|\sqrt{x}$ | $2xy\sqrt{6y}$ | $|x|\sqrt{7y}$ | $-3|x|\sqrt{5}$ | $3|x|$ | $2x^2\sqrt{|y|}\sqrt{6}$ | $3x^2\sqrt{y}$ | $3|xy|$ | $2|xy|$ | $-2|y|\sqrt{5x}$ | $-2x^2\sqrt{7}$

(E) $\sqrt{a^3}$

(T) $-\sqrt{40a^3}$

(A) $\sqrt{54a^3b^2}$

(E) $\sqrt{75a^2b^3}$

(I) $\sqrt{144b^6}$

(E) $-\sqrt{1000a^6}$

(S) $\sqrt{18a^6b^2}$

(H) $\sqrt{15a^8b^3}$

(A) $\sqrt{a^5b^8}$

(V) $2\sqrt{50ab^5}$

(D) $8\sqrt{300a^4b^6}$

(G) $5\sqrt{98a^{20}b^3}$

Answer boxes: $-2a^2\sqrt{10a}$ | $a^4b\sqrt{15b}$ | $-10|a|^3\sqrt{10}$ | $40ab^3\sqrt{3}$ | $10b^2\sqrt{2ab}$ | $3a^2b$ | $a\sqrt{a}$ | $35a^{10}b^9$ | $3a|b|\sqrt{2b}$ | $3|ab|\sqrt{3}$ | $a^2b^2\sqrt{5}$ | $12|b|^3$ | $80a^2|b|^3\sqrt{3}$ | $5a|b|\sqrt{3b}$ | $a^2b^4\sqrt{a}$

OBJECTIVE 3–h: To simplify square roots with variables in the radicand (assuming that all radicands, but not necessarily all variables, are nonnegative).