

# EXAMEN MATEMÁTICAS 1º ESO. POTENCIAS Y RAÍCES.

1.  $17^1 = 17$ ;  $3^5 = 243$ ;  $10^7 = 10\,000\,000$ ;  $12^0 = 1$ ;  $1^9 = 1$   
*0,2*      *0,2*      *0,2*      *0,2*      *0,2*

2.  $(6-3)^2 + 2 \cdot 10^3 - (5^3 - 4^3) = 3^2 + 2 \cdot 10^3 - (125 - 64) = 9 + 2 \cdot 1000 - 61 =$   
 $= 9 + 2000 - 61 = \underline{1948}$  *1*

3. a) Cien millones =  $10^8$  *0,25* b) 10 billones =  $10^{13}$  *0,25*

4.  $63\,743\,091 = 6 \cdot 10^7 + 3 \cdot 10^6 + 7 \cdot 10^5 + 4 \cdot 10^4 + 3 \cdot 10^3 + 9 \cdot 10^2 + 1 \cdot 10^1$  *0,5*

5. a)  $28\,741\,000 = 3 \cdot 10^7$  *0,5* b)  $41\,327\,000\,000\,000 = 41 \cdot 10^{12}$  *0,5*

6. a)  $6^4 \cdot 5^4 = 30^4 = 810.000$  *0,5* b)  $10^3 \cdot 4^3 : 8^3 = 5^3 = 125$  *0,5*

c)  $(3^3 \cdot 4^3) : (20^3 : 5^3) = 12^3 : 4^3 = 3^3 = 27$  *0,5*

7. a)  $(6^5)^2 \cdot (6^3)^3 = 6^{10} \cdot 6^9 = 6^{19}$  *0,5*

b)  $(7^2)^3 : 7^6 = 7^6 : 7^6 = 7^0 = 1$  *0,5*

c)  $a^{10} : (a^3)^3 \cdot a^5 = a^{10} : a^9 \cdot a^5 = a \cdot a^5 = a^6$  *0,5*

8. a)  $\sqrt{144} - \sqrt{81} + \sqrt{400} = 12 - 9 + 20 = 23$  *0,5*

b)  $(4\sqrt{5} - 5\sqrt{9}) : 5 = (4 \cdot 5 - 5 \cdot 3) : 5 = (20 - 15) : 5 = 5 : 5 = 1$  *0,5*

9.  $\sqrt{1853} \approx 43$       resto =  $1853 - 1849 = 4$

|                                                                                    |                                                                                    |                                                                                    |
|------------------------------------------------------------------------------------|------------------------------------------------------------------------------------|------------------------------------------------------------------------------------|
| $\begin{array}{r} 45 \\ \times 45 \\ \hline 225 \\ 180 \\ \hline 2025 \end{array}$ | $\begin{array}{r} 43 \\ \times 43 \\ \hline 129 \\ 172 \\ \hline 1849 \end{array}$ | $\begin{array}{r} 44 \\ \times 44 \\ \hline 176 \\ 176 \\ \hline 1936 \end{array}$ |
|------------------------------------------------------------------------------------|------------------------------------------------------------------------------------|------------------------------------------------------------------------------------|

10. a)  $\sqrt{169} = 13$ . Habrá 13 fichas en cada lado del cuadrado.

b)  $15 \times 15 = 15^2 = 225$  fichas. *1*

$$\begin{array}{r} 15 \\ \times 15 \\ \hline 75 \\ 15 \\ \hline 225 \end{array}$$