

Найдите значение выражения

7.19.  $1,5^{7-\sqrt{24}} \cdot 1,5^{2\sqrt{6}-6}$  **1,5** 7.21  $54^{-3,9} \cdot 9^{4,9} : 6^{-2,9}$  **1,5** 7.23  $\frac{m^{\frac{11}{14}} \cdot m^{\frac{1}{6}}}{m^{-\frac{5}{7}}}$  при  $m = 216$

7.20  $(0,027^{-\frac{1}{6}} \cdot 0,3^{6,5})^{\frac{1}{3}}$  **0,09** 7.22.  $8^7 \cdot 6^5 : 4^{14}$  **60,75** 7776

7.24.  $\frac{a^3 + b^3}{ab} \cdot \frac{a^2 + ab + b^2}{a^6 - b^6}$  при  $a = \sqrt{15} - 5$ ,  $b = \sqrt{15} + 5$ . **0,01**

7.20  $\dots = ((0,3^3)^{-\frac{1}{6}} \cdot 0,3^{6,5})^{\frac{1}{3}} = (0,3^{-0,5} \cdot 0,3^{6,5})^{\frac{1}{3}} =$   
 $= (0,3^6)^{\frac{1}{3}} = 0,3^2 = 0,09$

7.21  $54^{-3,9} \cdot 9^{4,9} : 6^{-2,9} = \frac{(6 \cdot 9)^{-3,9} \cdot 9^{4,9}}{6^{-2,9}} = \frac{6^{-3,9} \cdot 9^{-3,9} \cdot 9^{4,9}}{6^{-2,9}} =$   
 $= 6^{-3,9+2,9} \cdot 9^{-3,9+4,9} = 6^{-1} \cdot 9^1 = \frac{9}{6} = \frac{3}{2} = 1,5$

7.23  $\frac{m^{\frac{11}{14}} \cdot m^{\frac{1}{6}}}{m^{-\frac{5}{7}}} = m^{\frac{11}{14} + \frac{1}{6} + \frac{5}{7}} = m^{\frac{11}{14} + \frac{10}{14} + \frac{10}{14}} = m^{\frac{31}{14}}$   
 $= m^{\frac{3}{2} + \frac{1}{6}} = m^{\frac{9}{6} + \frac{1}{6}} = m^{\frac{10}{6}} = m^{\frac{5}{3}}$

$m = 216 = 6^3 \Rightarrow m^{\frac{5}{3}} = (6^3)^{\frac{5}{3}} = 6^5 = 6^3 \cdot 6^2 = 216 \cdot 36 = 7776$

7.24  $\frac{a^3 + b^3}{ab} \cdot \frac{a^2 + ab + b^2}{a^6 - b^6} = \frac{a^3 + b^3}{ab} \cdot \frac{a^2 + ab + b^2}{(a^3)^2 - (b^3)^2} =$   
 $= \frac{a^3 + b^3}{ab} \cdot \frac{a^2 + ab + b^2}{(a^3 - b^3)(a^3 + b^3)} = \frac{a^2 + ab + b^2}{ab(a - b)(a^2 + ab + b^2)} =$

$= \frac{1}{ab(a - b)}$

$a = \sqrt{15} - 5$   
 $b = \sqrt{15} + 5$

$\frac{1}{(\sqrt{15} - 5)(\sqrt{15} + 5)(\sqrt{15} - 5 - (\sqrt{15} + 5))} = \frac{1}{((\sqrt{15})^2 - 5^2)(\sqrt{15} - 5 - \sqrt{15} - 5)}$

$= \frac{1}{(15 - 25)(-10)} = \frac{1}{-10 \cdot (-10)} = \frac{1}{100} = 0,01$