Answer on Question #57169 – Math – Calculus

Question

(a^3 b^12 c^2) x (a^5 c^2)
---------- =
(b^5 c^4)^0

A: a^15 b^12 c^4
B: a^8 b^12 c^4
C: a^14 b^15 c^9
D: a^8 b^17 c^8

Solution

$$\frac{(a^3\ b^{12}\ c^2)\cdot(a^5\ c^2)}{(b^5\ c^4)^0}=\frac{a^{3+5}\ b^{12}\ c^{2+2}}{1}=a^8\ b^{12}\ c^4$$

Answer: B: $a^8\ b^{12}\ c^4$

Question

81^3/4
---------- =
81^1/2

A: 9
B: (81/3)^-1/2
C: 27
D: 3

Solution

$$\frac{81^{\frac{3}{4}}}{81^{\frac{1}{2}}}=\frac{\left(3^4\right)^{\frac{3}{4}}}{\left(3^4\right)^{\frac{1}{2}}}=\frac{3^3}{3^2}=\frac{27}{9}=3$$

Answer: D: 3

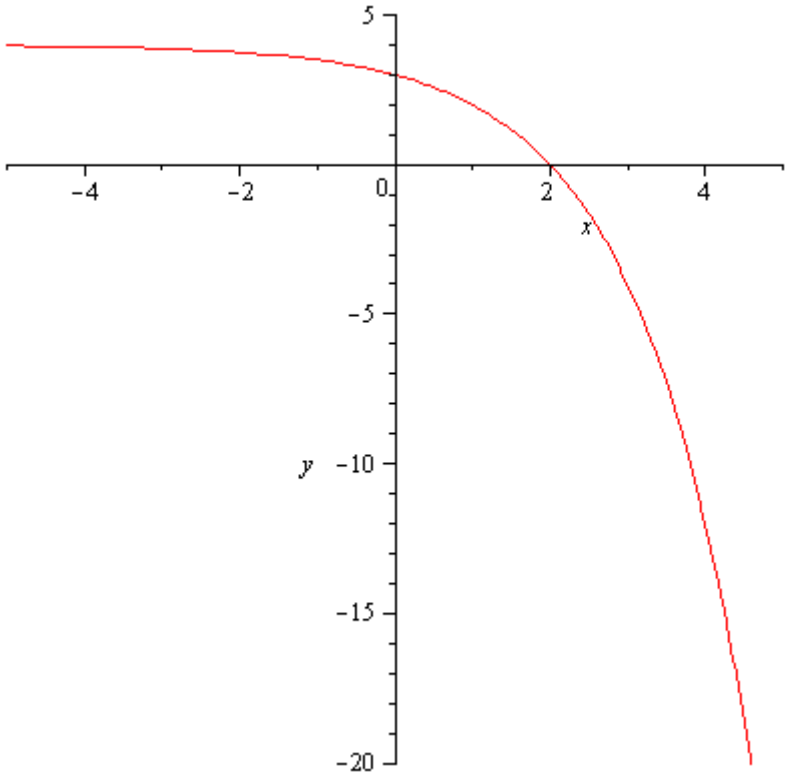
Question

The function f(x) = -a^x + 4 will never cross the x-axis.

True
False

Solution

The statement is false, because if a>0 then $f(0) = -a^0 + 4 = -1 + 4 = 3$ and graph decreasing therefore the graph will cross the x-axis.



Answer: False.