

Trig/PreCalculus
Chapter 11 Practice Test

Name: _____

1. Evaluate $(9^{\frac{1}{2}} + 216^{\frac{1}{3}})^{-\frac{1}{2}}$.

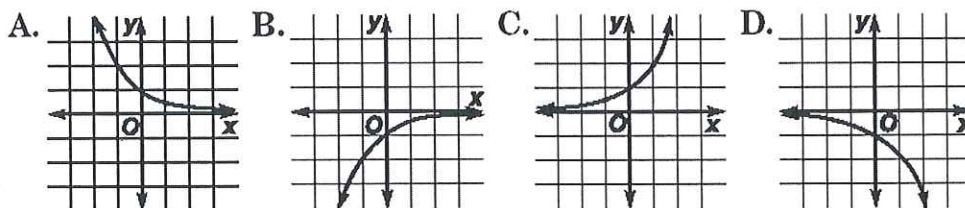
2. Simplify $\left(\frac{32x^4y^4}{4x^{-2}y}\right)^{\frac{2}{3}}$.

3. Express $\sqrt[3]{27x^4y^6}$ using rational exponents.

4. Express $(2x^2)^{\frac{1}{3}}(2x)^{\frac{1}{2}}$ using radicals.

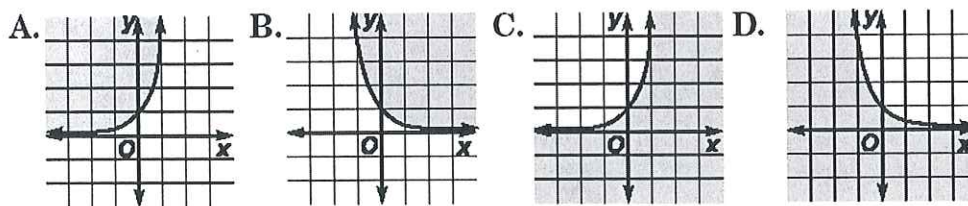
5. Choose the graph of $y = 2^{-x}$.

5. _____



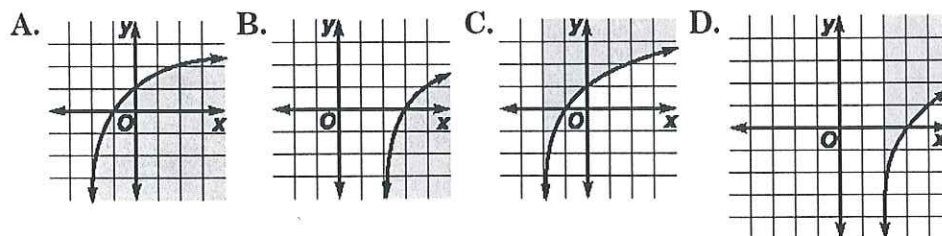
6. Choose the graph of $y \leq 4^x$.

6. _____



7. Choose the graph of $y \leq \log_2(x+2)$.

7. _____



8. A 1991 report estimated that there were 640 salmon in a certain river. If the population is decreasing exponentially at a rate of 4.3% per year, what is the expected population in 2002?

9. Compare the balance after 12 years of a \$4000 investment earning 9% interest that is compounded continuously to the same investment compounded monthly.

10. Write $16^{\frac{3}{4}} = 8$ logarithmic form.

11. Evaluate $\log_4 \frac{1}{64}$.

12. Solve $\log_2(x + 6) + \log_2 3 = 2\log_2 6$.

13. Evaluate $\log_4 48 - \log_4 x = \log_4 8$.

14. Evaluate $\log_2(2x) = \log_2(4x - 10)$.

15. Find the value of $\log_3 92.4$ using the change of base formula.
16. Solve $6^{x-1} = 8^{2-x}$ using common logarithms.
17. Convert $\log_5 156$ to a natural logarithm and evaluate.
18. Solve $10(6 - e^{4x}) < 40$ by using natural logarithms.
19. Find the amount of time in years required for an investment to double at a rate of 6.2% if the interest is compounded continuously.
20. If your Grandparents left you an inheritance of \$25,000, what average annual investment rate would be necessary for you to accumulate \$1 million in a mutual fund at retirement in 45 years?