# EOC - Exponents and Exponential Growth & Decay Test Review

Period____

**Simplify. Your answer should contain only positive exponents.**

1) $4n^3 \cdot 4n \cdot 4n^2$

2) $2v^3 \cdot v^4$

3) $(4n^3)^2$

4) $(3b)^4$

5) $\frac{x^3}{x^3}$

6) $\frac{2k^4}{2k^3}$

7) $u^2v^3 \cdot 3u^4v^3$

8) $3ba^2 \cdot 4a^4b^0 \cdot 2b^4$

9) $(2x^3y^2)^4$

10) $(4vu^4)^3$

11) $\frac{3x^4y^3}{4x^2y^2}$

12) $\frac{3x^0y^4}{3x^2}$

13) $2v^4 \cdot 4v^{-1}$

14) $2x^2 \cdot 4x^3$

15) $(4b^4)^{-4}$

16) $(a^2)^{-2}$

17) $\frac{2x^{-4}}{4x^4}$

18) $\frac{2n^3}{n^4}$

19) $x^4y^0 \cdot (2y^0)^2$

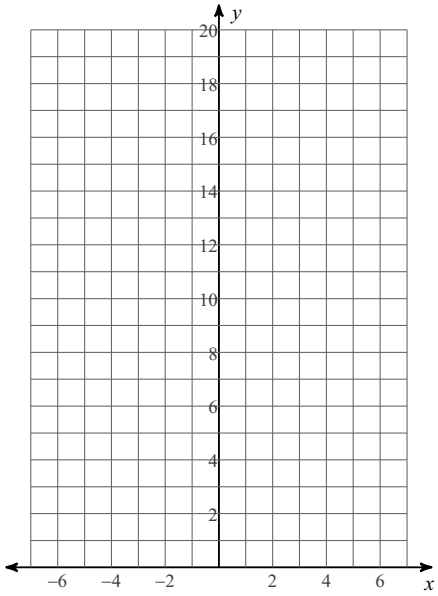
20) $(x^2y^2)^4 \cdot 2xy$

21) $\frac{v}{3u \cdot 2vu^2 \cdot 2u^3}$

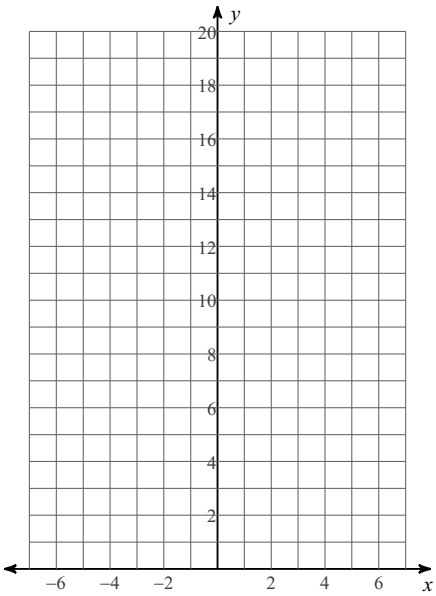
22) $\frac{x^4y^3}{y^2 \cdot 2x^4y^3}$

**Sketch the graph of each function.**

23) $y = 2 \cdot 2^x$

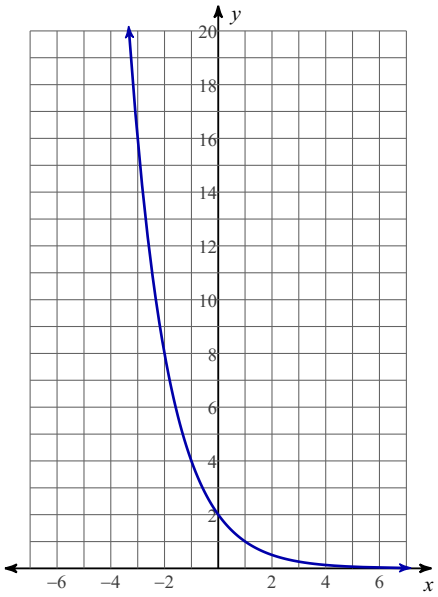



24) $y = 3 \cdot \left(\frac{1}{2}\right)^x$

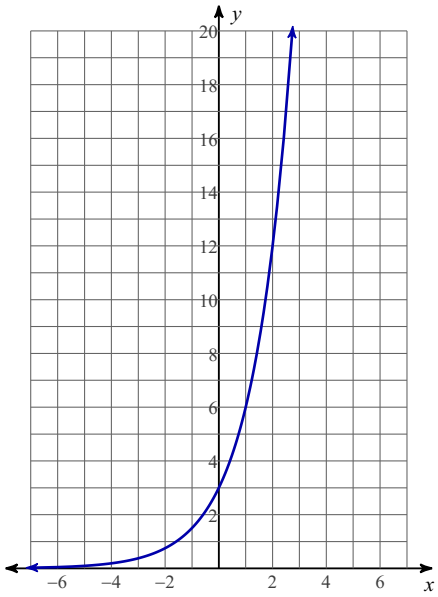



**Write an equation for each graph.**

25)




26)




27) A house has an infestation of 28 fleas. If left untreated, the fleas are expected to triple each month.

A) Write an equation that could be used to calculate the number of fleas after "$m$" months.

B) How many fleas would we expect to have after 4 months?

C) If they continued untreated, about how many fleas would there be in a year?

# Answers to EOC - Exponents and Exponential Growth & Decay Test Review (ID: 1)

1) $64n^6$

3) $16n^6$

5) $1$

7) $3u^6v^6$

9) $16x^{12}y^8$

11) $\frac{3x^2y}{4}$

13) $8v^3$

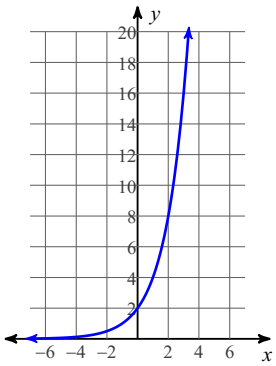
15) $\frac{1}{256b^{16}}$

17) $\frac{1}{2x^8}$

19) $4x^4$

21) $\frac{1}{12u^6}$

23)




25) $y = 2 \cdot \left(\frac{1}{2}\right)^x$

27) a) $f = 28 \cdot 3^m$
b) 2268 fleas
c) 14,880,348 fleas