

200403230629

ANSWERS

Exponents 23 March 2004

Name _____ ANSWERS _____

Simplify

1) $3^5 = 243$

2) $4^4 = 256$

3) $2^{16} = 65536$

4) $15^2 = 225$

5) $12^3 = 1728$

6) $1^{2245234567} = 1$

7) $2^3 3^3 = (8)(27) = 216$

8) $10^8 = 100,000,000$

9) $20^4 = 160,000$

10) $x^{21} x^{(-47)} = x^{21-47} = x^{-26}$

11) $1x^2 + 2x^2 + 3x^2 = 6x^2$

12) $(1.05)^3 = (1.05)(1.05)(1.05) = (1.1025)(1.05) = 1.157625$

13) $(-5x^5)^3 = -125x^{15}$

14) $x^a x^{2b} x^{2b} = x^{a+2b+2b} = x^{a+4b}$

15) $x^{222} x^{(-228)} = x^{222-228} = x^{-6}$

16) $x^{a+1} x^{(1-a)} = x^{a+1+1-a} = x^2$

17) $x^{10a} x^{-9a} = x^{10a-9a} = x^a$

18) $(x^{10a})^{90} = x^{900a}$

19) $(x^{10a})^{(-35a)} = x^{-350a^2}$ (Note the exponent of the exponent)

20) $x(x^2+2x+x) = x(x^2+3x)$

21) $(3x)^2(4x)^4 = (9x^2)(256x^4) = 2304x^6$

22) $(-1)^{2343333233568} = 1$

23) $(-1)^{1007003443320913} = -1$

24) $(x^{-4a} y^2)^4 = (x^{-4a(4)} y^{2(4)}) = x^{-16a} y^8$

25) $(x^{2a} y^{(-3)})^{44} = (x^{2a(44)} y^{(-3)(44)}) = x^{88a} y^{-132}$