

1. Write each expression in the form  $a^b$ :

a)  $(2^3)^x = 2^{3x}$

b)  $(2y)^x = 2^{xy}$

c)  $(5^{3z})^x = 5^{3xz}$

d)  $(6^{2y})^{3x} = 6^{6xy}$

e)  $(5^{-3z})^x = 5^{-3xz}$

f)  $(6^{-2y})^{-3w} = 6^{6wy}$

g)  $(7^5)^x = 7^{5x}$

h)  $(6^y)^r = 6^{ry}$

i)  $(51^{30z})^x = 51^{30xz}$

j)  $(62^{22y})^{3x} = 62^{66xy}$

k)  $(15.1^{-3z})^{-4x} = 15.1^{12xz}$

l)  $(6.66^{-6y})^{-1.11w} = 6.66^{6.66wy}$

2. Write each expression in the form  $a^b$ :

a)  $(2^{3x^2})^x = 2^{3x^3}$

b)  $(2^{xy})^x = 2^{x^2y}$

c)  $(5^{3xz})^x = 5^{3x^2z}$

d)  $(6^{2xy})^{3xy} = 6^{6x^2y^2}$

e)  $(5^{-3x^2z})^x = 5^{-3x^3z}$

f)  $(6^{-2wy})^{-3wy^2} = 6^{6w^2y^3}$

g)  $(7^{5r^6})^{qrx} = 7^{5qr^7x}$

h)  $(6^{fy})^{fr} = 6^{f^2ry}$

i)  $(51^{30xyz})^x = 51^{30x^2yz}$

j)  $(62^{22xy^2})^{3x} = 62^{66x^2y^2}$

k)  $(15.1^{-3z^5})^{-4x} = 15.1^{12xz^5}$

l)  $(6.66^{-6y^2z^3})^{-1.11w^2y^3} = 6.66^{6.66w^2y^5z^3}$