

2 Solve these equations for x .

a $3^{x-3} = 3^{2-x}$

b $5^{3x} = 25^{x-2}$

c $9(3^{3x+1}) = \frac{1}{9^x}$

d $2^{2-3x} = 4^{x-1}$

1 Solve these equations for x .

a $2x^4 = 162$

b $x^5 - 32 = 0$

c $x^{-2} = 16$

d $8x^{-3} = (8x)^3$

e $27x^{-2} = 81x$

f $27x^{-3} = 64$

3 Solve these equations for x .

a $x^{-\frac{3}{2}} = 125$

b $6x^{-\frac{2}{3}} = 216$

c $x^{-\frac{1}{4}} = 4$

d $x^{\frac{2}{3}} = 16$

e $x^{-\frac{3}{5}} = \frac{1}{8}$

f $3x^{-\frac{1}{4}} = 6$