mobius

Exponents - Power Law - Prime Base with Variable Power to Exponent Base with Unknown Power

1 Solve for the missing exponent (x) in reduced form

$$2^n = (2^4)^x$$

A	B	C	D	E	F
$x = \dfrac{12n}{2}$	$x = \dfrac{2n}{4}$	$x = \dfrac{2}{6n}$	$x = \dfrac{n}{4}$	$x = \dfrac{2n}{6}$	$x = 4n$

2 Solve for the missing exponent (x) in reduced form

$$3^n = (3^2)^x$$

A	B	C	D	E	F
$x = \dfrac{3n}{9}$	$x = 6n$	$x = \dfrac{6}{3n}$	$x = 8n$	$x = \dfrac{3n}{2}$	$x = \dfrac{n}{2}$

3 Solve for the missing exponent (x) in reduced form

$$2^n = (2^2)^x$$

A	B	C	D	E	F
$x = 5n$	$x = \dfrac{6n}{2}$	$x = \dfrac{4n}{3}$	$x = \dfrac{2n}{2}$	$x = 4n$	$x = \dfrac{n}{2}$

4 Solve for the missing exponent (x) in reduced form

$$4^n = (4^3)^x$$

A	B	C	D	E	F
$x = \dfrac{6}{2n}$	$x = 2n$	$x = \dfrac{n}{3}$	$x = \dfrac{4n}{3}$	$x = 9n$	$x = 6n$

5 Solve for the missing exponent (x) in reduced form

$$4^n = (4^2)^x$$

A	B	C	D	E	F
$x = 6n$	$x = \dfrac{4n}{3}$	$x = \dfrac{n}{2}$	$x = 4n$	$x = \dfrac{3n}{6}$	$x = 3n$

6 Solve for the missing exponent (x) in reduced form

$$3^n = (3^3)^x$$

A	B	C	D	E	F
$x = 4n$	$x = 7n$	$x = \dfrac{6n}{4}$	$x = \dfrac{n}{3}$	$x = 6n$	$x = \dfrac{4n}{8}$

7 Solve for the missing exponent (x) in reduced form

$$2^n = (2^5)^x$$

A		B	
$x = \dfrac{10}{2n}$		$x = 5n$	
C	$x = 15n$	**D**	$x = 10n$
E	$x = 4n$	**F**	$x = \dfrac{n}{5}$

8 Solve for the missing exponent (x) in reduced form

$$3^n = (3^4)^x$$

A		B	
$x = \dfrac{6n}{4}$		$x = \dfrac{3n}{4}$	
C	$x = \dfrac{2n}{6}$	**D**	$x = \dfrac{n}{4}$
E	$x = 16n$	**F**	$x = 12n$