mobius

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

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

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

A	B	C	D	E	F
$x = \dfrac{2n}{4}$	$x = \dfrac{4n}{1}$	$x = \dfrac{5}{n}$	$x = \dfrac{2}{2n}$	$x = n$	$x = 2n$

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

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

A	B	C	D	E	F
$x = 2n$	$x = \dfrac{2n}{4}$	$x = 3n$	$x = \dfrac{2n}{2}$	$x = \dfrac{4n}{1}$	$x = \dfrac{2}{4n}$

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

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

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

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

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

A	B	C	D	E	F
$x = \dfrac{2n}{1}$	$x = 4n$	$x = \dfrac{4}{12n}$	$x = \dfrac{3}{4n}$	$x = 6n$	$x = 3n$

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

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

A	B	C	D	E	F
$x = \dfrac{6n}{1}$	$x = 4n$	$x = \dfrac{2n}{6}$	$x = n$	$x = \dfrac{4n}{1}$	$x = 3n$

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

$$(6^n)^3 = 6^x$$

A	B	C	D	E	F
$x = 8n$	$x = \dfrac{3n}{2}$	$x = \dfrac{6n}{1}$	$x = 4n$	$x = \dfrac{3}{2n}$	$x = 3n$

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

$$(5^n)^3 = 5^x$$

A	B	C	D	E	F
$x = \dfrac{6n}{1}$	$x = 4n$	$x = 3n$	$x = 7n$	$x = 2n$	$x = n$

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

$$(6^n)^2 = 6^x$$

A	B	C	D	E	F
$x = 2n$	$x = \dfrac{2}{2n}$	$x = \dfrac{2}{4n}$	$x = \dfrac{2n}{2}$	$x = 3n$	$x = \dfrac{6n}{1}$

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