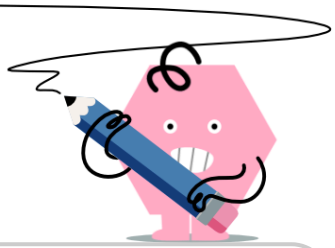
Name

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



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

$$(2^n)^6 = 8^x$$

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

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

$$(4^n)^6 = 16^x$$

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

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

$$(3^n)^6 = 27^x$$

A	B	C	D	E	F
$x = 3n$	$x = 7n$	$x = \frac{3}{3n}$	$x = 9n$	$x = 2n$	$x = \frac{4n}{8}$

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

$$(2^n)^9 = 8^x$$

A	B	C	D	E	F
$x = \frac{15n}{3}$	$x = \frac{2n}{3}$	$x = 3n$	$x = 5n$	$x = 9n$	$x = \frac{9}{5n}$

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

$$(3^n)^8 = 81^x$$

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

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

$$(2^n)^{10} = 32^x$$

A	B	C	D	E	F
$x = \frac{2n}{5}$	$x = \frac{10}{3n}$	$x = \frac{3}{6n}$	$x = 5n$	$x = \frac{3n}{6}$	$x = 2n$

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

$$(3^n)^{12} = 81^x$$

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

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

$$(2^n)^6 = 4^x$$

A	B	C	D	E	F
$x = 8n$	$x = \frac{2n}{2}$	$x = 3n$	$x = 5n$	$x = \frac{5}{15n}$	$x = \frac{6}{5n}$