Name

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

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

$$3^n = 27^x$$

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

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

$$5^n = 25^x$$

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

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

$$2^n = 8^x$$

A	B	C	D	E	F
$x = \frac{1}{3n}$	$x = \frac{9}{n}$	$x = n$	$x = 3n$	$x = \frac{n}{3}$	$x = 12n$

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

$$6^n = 36^x$$

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

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

$$3^n = 9^x$$

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

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

$$2^n = 16^x$$

A	B
$x = 12n$	$x = n$
C	D
$x = \frac{n}{4}$	$x = 8n$
E	F
$x = \frac{2n}{4}$	$x = \frac{1}{2n}$

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

$$2^n = 32^x$$

A	B
$x = 3n$	$x = 20n$
C	D
$x = \frac{n}{3}$	$x = \frac{n}{5}$
E	F
$x = 5n$	$x = \frac{2n}{5}$

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

$$4^n = 16^x$$

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