Math worksheet on *'Exponents - Power Law - Composite Base with Variable Power to Prime Base with Unknown Power (Level 1)'*. Part of a broader unit on *'Exponents - Negative, Fractional, and Power Law'*

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

$$64^n = 4^?$$

a	b	c	d	e	f
$?=3n$	$?=\frac{3}{3n}$	$?=7n$	$?=n$	$?=\frac{3n}{3}$	$?=4n$

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

$$4^n = 2^?$$

a	b	c	d	e	f
$?=2n$	$?=\frac{2n}{4}$	$?=3n$	$?=\frac{2n}{1}$	$?=\frac{2}{n}$	$?=4n$

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

$$16^n = 2^?$$

a	b	c	d	e	f
$?=\frac{3n}{4}$	$?=4n$	$?=\frac{2}{n}$	$?=\frac{2n}{1}$	$?=\frac{3}{4n}$	$?=3n$

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

$$81^n = 3^?$$

a	b	c	d	e	f
$?=\frac{4}{8n}$	$?=4n$	$?=n$	$?=2n$	$?=7n$	$?=\frac{2}{4n}$

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

$$8^n = 2^?$$

a	b	c	d	e	f
$?=\frac{2n}{1}$	$?=\frac{2}{n}$	$?=\frac{9n}{1}$	$?=5n$	$?=3n$	$?=\frac{3n}{3}$

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

$$25^n = 5^?$$

a	b	c	d	e	f
$?=\frac{6n}{1}$	$?=\frac{2n}{6}$	$?=4n$	$?=n$	$?=2n$	$?=\frac{3}{2n}$

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

$$36^n = 6^?$$

a	b	c	d	e	f
$?=\frac{2}{2n}$	$?=\frac{2}{4n}$	$?=\frac{6n}{1}$	$?=\frac{2n}{4}$	$?=2n$	$?=\frac{2n}{2}$