mobius

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

Learn online:

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

$$9^n = 27^?$$

a	b	c	d	e	f
$? = 3n$	$? = \dfrac{3}{3n}$	$? = \dfrac{2}{4n}$	$? = \dfrac{6n}{2}$	$? = \dfrac{2n}{3}$	$? = 9n$

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

$$16^n = 8^?$$

a	b	c	d	e	f
$? = 12n$	$? = \dfrac{4}{12n}$	$? = \dfrac{9}{4n}$	$? = \dfrac{2n}{3}$	$? = \dfrac{4n}{3}$	$? = \dfrac{12n}{3}$

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

$$64^n = 16^?$$

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

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

$$27^n = 81^?$$

a	b	c	d	e	f
$? = \dfrac{3n}{6}$	$? = 12n$	$? = \dfrac{3n}{4}$	$? = \dfrac{3}{6n}$	$? = \dfrac{3}{4n}$	$? = \dfrac{8}{3n}$

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

$$16^n = 64^?$$

a	b	c	d	e	f
$? = \dfrac{6}{2n}$	$? = \dfrac{2n}{3}$	$? = \dfrac{6n}{2}$	$? = \dfrac{4n}{3}$	$? = 6n$	$? = 9n$

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

$$16^n = 4^?$$

a	b	c	d	e	f
$? = 2n$	$? = \dfrac{4}{8n}$	$? = \dfrac{4n}{8}$	$? = 6n$	$? = 4n$	$? = \dfrac{2n}{2}$

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

$$9^n = 81^?$$

a	b	c	d	e	f
$? = \dfrac{3}{4n}$	$? = \dfrac{n}{2}$	$? = \dfrac{3n}{4}$	$? = 5n$	$? = 12n$	$? = 2n$