



Solve exponential equations using common bases

1

Simplify and solve for n

$$2^{(8n-9)} = 32^n$$

A

$$n = 4$$

B

$$n = 2$$

C

$$n = 3$$

D

$$n = 5$$

2

Simplify and solve for z

$$3^{(2z)} = 81$$

A

$$z = 1$$

B

$$z = 2$$

3

Simplify and solve for y

$$2^{(y+6)} = 8$$

A

$$y = -3$$

B

$$y = -2$$

4

Simplify and solve for m

$$6^{\left(\frac{m+48}{m}\right)} = 36$$

A

$$m = 48$$

B

$$m = 50$$

5

Simplify and solve for t

$$5^{\left(\frac{t-3}{2}\right)} = 25^t$$

A

$$t = -1$$

B

$$t = -2$$

6

Simplify and solve for n

$$5^{\left(\frac{n+7}{n-6}\right)} = 25$$

A

$$n = 19$$

B

$$n = 21$$

7

Solve for the missing exponent

$$\left(\frac{1}{3}\right)^x = \frac{1}{81}$$

A

$$x = -5$$

B

$$x = 6$$

C

$$x = 3$$

D

$$x = 5$$

E

$$x = 4$$

F

$$x = 2$$

8

Simplify and solve for t

$$2^{(4t+9)} = 32^t$$

A

$$t = 8$$

B

$$t = 9$$

C

$$t = 10$$

D

$$t = 11$$



Solve exponential equations using common bases

9

Solve for the missing exponent (x) in reduced form

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

A

$$x = 3n$$

B

$$x = 12n$$

C

$$x = 5n$$

D

$$x = 9n$$

E

$$x = \frac{2n}{3}$$

F

$$x = \frac{15n}{3}$$

10

Solve for the missing exponent (x) in reduced form

$$(3^3)^n = 9^x$$

A

$$x = \frac{3n}{6}$$

B

$$x = \frac{6n}{2}$$

C

$$x = \frac{3n}{2}$$

D

$$x = \frac{3}{6n}$$

E

$$x = 6n$$

F

$$x = 3n$$

11

Solve for the missing exponent (x) in reduced form

$$16^n = (2^x)^8$$

A

$$x = \frac{4}{8n}$$

B

$$x = 5n$$

C

$$x = \frac{n}{2}$$

D

$$x = \frac{10}{4n}$$

E

$$x = 6n$$

F

$$x = \frac{8n}{5}$$

12

Solve for the missing exponent (x) in reduced form

$$16^n = (4^3)^x$$

A

$$x = \frac{2n}{4}$$

B

$$x = \frac{2n}{3}$$

C

$$x = \frac{2}{4n}$$

D

$$x = 3n$$

E

$$x = \frac{4}{3n}$$

F

$$x = 6n$$