

Name: _____

Score: _____

Exponents

DS1

Find the value of x to balance the equation.

1) $x^3 = -\frac{1}{512}$ $x =$ _____	2) $\frac{343}{27} = \left(\frac{7}{3}\right)^x$ $x =$ _____	3) $\left(\frac{1}{11}\right)^{-x} = 121$ $x =$ _____		
4) $256 = 2^x$ $x =$ _____	5) $729 = x^6$ $x =$ _____	6) $-\frac{64}{125} = x^3$ $x =$ _____		
7) $x^3 = -\frac{512}{125}$ $x =$ _____	<div style="border: 2px solid blue; padding: 10px; text-align: center;"> <h1 style="color: blue; margin: 0;">PREVIEW</h1> <p style="color: blue; font-weight: bold; margin: 5px 0;">Access the largest collection of worksheets for just \$19.95 per year!</p> <div style="display: flex; justify-content: space-around; margin: 10px 0;"> <div style="background-color: #007bff; color: white; padding: 5px; border-radius: 10px; width: 150px;"> <p style="margin: 0;">Members, please log in to download this worksheet.</p> <p style="background-color: white; color: red; border-radius: 10px; padding: 2px 5px; display: inline-block; font-weight: bold;">Log in</p> </div> <div style="background-color: #007bff; color: white; padding: 5px; border-radius: 10px; width: 150px;"> <p style="margin: 0;">Not a member? Please sign up to gain complete access.</p> <p style="background-color: white; color: red; border-radius: 10px; padding: 2px 5px; display: inline-block; font-weight: bold;">Sign up</p> </div> </div> <p style="color: blue; font-size: small; margin: 10px 0;">www.mathworksheets4kids.com</p> </div>			
10) $169 = (-13)^x$ $x =$ _____			8) $16 = x^3$ $x =$ _____	
13) $x^3 = -\frac{27}{64}$ $x =$ _____			9) $-\frac{1}{625} = x^{-x}$ $x =$ _____	
16) $81 = (-9)^x$ $x =$ _____			10) $1 = x^3$ $x =$ _____	
19) $x^3 = \frac{125}{216}$ $x =$ _____			20) $\frac{27}{512} = \left(\frac{3}{8}\right)^x$ $x =$ _____	21) $\left(\frac{5}{9}\right)^{-x} = \frac{81}{25}$ $x =$ _____

Name: _____

Answer key

Score: _____

Exponents

DS1

1) $x^3 = -\frac{1}{512}$ $x = -\frac{1}{8}$	2) $\frac{343}{27} = \left(\frac{7}{3}\right)^x$ $x = 3$	3) $\left(\frac{1}{11}\right)^{-x} = 121$ $x = 2$		
4) $256 = 2^x$ $x = 8$	5) $729 = x^6$ $x = 3$	6) $-\frac{64}{125} = x^3$ $x = -\frac{4}{5}$		
7) $x^3 = -\frac{512}{125}$ $x = -\frac{8}{5}$	<div data-bbox="462 682 1153 1596" data-label="Complex-Block"> <p style="text-align: center;">PREVIEW</p> <p style="text-align: center;">Access the largest collection of worksheets for just \$19.95 per year!</p> <div style="display: flex; justify-content: space-around;"> <div data-bbox="519 1123 803 1449" data-label="Text"> <p>Members, please log in to download this worksheet.</p> <p style="text-align: center;">Log in</p> </div> <div data-bbox="820 1123 1096 1449" data-label="Text"> <p>Not a member? Please sign up to gain complete access.</p> <p style="text-align: center;">Sign up</p> </div> </div> <p style="text-align: center;">www.mathworksheets4kids.com</p> </div>			
10) $169 = (-13)^x$ $x = 2$			8) $16 = x^3$ $x = 2$	9) $2 = x^3$ $x = \sqrt[3]{2}$
13) $x^3 = -\frac{27}{64}$ $x = -\frac{3}{4}$			11) $-6 = x^3$ $x = \sqrt[3]{-6}$	12) $-x = 625$ $x = -625$
16) $81 = (-9)^x$ $x = 2$			14) $x = 8$	15) $x = \frac{3}{4}$
19) $x^3 = \frac{125}{216}$ $x = \frac{5}{6}$			20) $\frac{27}{512} = \left(\frac{3}{8}\right)^x$ $x = 3$	21) $\left(\frac{5}{9}\right)^{-x} = \frac{81}{25}$ $x = 2$