

Name: _____

Score: _____

Exponents

DS2

Find the value of x to balance the equation.

| | | | |
|---|--|--|---------------------|
| 1) $x^5 = 1024$ $x =$ _____ | 2) $\frac{6561}{256} = \left(-\frac{9}{4}\right)^x$ $x =$ _____ | 3) $\left(-\frac{1}{7}\right)^{-x} = -\frac{1}{343}$ $x =$ _____ | |
| 4) $2197 = 13^x$ $x =$ _____ | 5) $-125 = x^3$ | 6) $\frac{243}{3125} = x^5$ | |
| 7) $x^3 = -3375$ $x =$ _____ | <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: 5px; width: 150px;"> <p style="font-size: 0.8em; margin: 0;">Members, please log in to download this worksheet.</p> <p style="font-weight: bold; color: red; margin: 0;">Log in</p> </div> <div style="background-color: #007bff; color: white; padding: 5px; border-radius: 5px; width: 150px;"> <p style="font-size: 0.8em; margin: 0;">Not a member? Please sign up to gain complete access.</p> <p style="font-weight: bold; color: red; margin: 0;">Sign up</p> </div> </div> <p style="color: blue; font-size: 0.9em; margin: 10px 0;">www.mathworksheets4kids.com</p> </div> | | |
| 10) $729 = 9^x$ $x =$ _____ | | | $= 1000$ |
| 13) $x^3 = -\frac{125}{216}$ $x =$ _____ | | | $331 = x^3$ |
| 16) $-32 = (-2)^x$ $x =$ _____ | | | $= \frac{2401}{16}$ |
| | | | $\frac{7}{4} = x^3$ |
| | $x =$ _____ | $x =$ _____ | |
| 19) $x^3 = \frac{512}{729}$ $x =$ _____ | 20) $-\frac{8}{343} = \left(-\frac{2}{9}\right)^x$ $x =$ _____ | 21) $\left(\frac{4}{5}\right)^{-x} = \frac{256}{625}$ $x =$ _____ | |

Name: _____

Answer key

Score: _____

Exponents

DS2

| | | |
|--|--|---|
| 1) $x^5 = 1024$ $x = 4$ | 2) $\frac{6561}{256} = \left(-\frac{9}{4}\right)^x$ $x = 4$ | 3) $\left(-\frac{1}{7}\right)^{-x} = -\frac{1}{343}$ $x = -3$ |
| 4) $2197 = 13^x$ $x = 3$ | 5) $-125 = x^3$ | 6) $\frac{243}{3125} = x^5$ |
| 7) $x^3 = -3375$ $x = -15$ | | $3 = 1000$ -3 |
| 10) $729 = 9^x$ $x = 3$ | | $331 = x^3$ -11 |
| 13) $x^3 = -\frac{125}{216}$ $x = -\frac{5}{6}$ | | $-x = \frac{2401}{16}$ -4 |
| 16) $-32 = (-2)^x$ $x = 5$ | | $\frac{7}{4} = x^3$ |
| | $x = \frac{1}{2}$ | $x = -\frac{3}{4}$ |
| 19) $x^3 = \frac{512}{729}$ $x = \frac{8}{9}$ | 20) $-\frac{8}{343} = \left(-\frac{2}{7}\right)^x$ $x = 3$ | 21) $\left(\frac{4}{5}\right)^{-x} = \frac{256}{625}$ $x = -4$ |

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