

# 5.2 Puzzle Time

## Why Did The 200-Lumen Bulb Flunk Out Of School?

Write the letter of each answer in the box containing the exercise number.

Simplify the expression.

1.  $(8^2)^{1/3}$
2.  $5^{3/4} \cdot 5^{1/2}$
3.  $\left(\frac{64}{125}\right)^{1/3}$
4.  $(2^4 \cdot 6^4)^{-1/4}$
5.  $(3^{2/3} \cdot 5^{1/4})^6$
6.  $\frac{4}{4^{1/2}}$
7.  $\sqrt[3]{27} \cdot \sqrt[3]{729}$
8.  $\frac{\sqrt[4]{32}}{\sqrt[4]{256}}$
9.  $\frac{\sqrt[3]{24} \cdot \sqrt[3]{12}}{\sqrt[3]{2}}$
10.  $\frac{25^{1/6} \cdot 25^{1/3}}{5^{6/5}}$
11.  $\frac{4}{8 - \sqrt{3}}$
12.  $10\sqrt[4]{5} - 3\sqrt[4]{5}$
13.  $12(4^{3/4}) + 5(4^{3/4})$
14.  $\sqrt[5]{3^5}$
15.  $(3^{2/5})^{1/2}$
16.  $-3(2^{1/5}) - 2(2^{1/5})$

**Answers**

<p>E. <math>5^{5/4}</math></p> <p>H. 4</p> <p>N. 2</p> <p>H. <math>3^{1/5}</math></p> <p>S. <math>2\sqrt[3]{18}</math></p> <p>O. <math>\frac{1}{5^{1/5}}</math></p> <p>G. 3</p> <p>T. <math>-5(2^{1/5})</math></p>	<p>W. <math>\frac{4}{5}</math></p> <p>A. <math>\frac{1}{12}</math></p> <p>S. <math>81 \cdot 5^{3/2}</math></p> <p>T. <math>\left(\frac{1}{8}\right)^{1/4}</math></p> <p>O. 27</p> <p>R. <math>7\sqrt[4]{5}</math></p> <p>I. <math>17(4^{3/4})</math></p> <p>B. <math>\frac{32 + 4\sqrt{3}}{61}</math></p>
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1	2		3	4	5		6	7	8		9	10		11	12	13	14	15	16
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