MULTIPLE CHOICE

1. Calculate and simplify the solution: $\sqrt{4 \cdot \sqrt[3]{64}}$.
   a. 2
   b. 16
   c. 4
   d. 64

   ANS: C
   $\sqrt{4 \cdot \sqrt[3]{64}} = \sqrt{4 \cdot 4} = \sqrt{(4)^2} = 4$

   PTS: 1 DIF: Grade 8 REF: 1AL1.2
   OBJ: Students understand determining a root, simplifying a root and the meaning of a fractional power (rational exponents) and understand and use the rules of exponents.
   TOP: Algebra 1 KEY: roots MSC: Dynamic

2. If $x = 25$, what is: $x^{3/2} x^{98} x^{-97}$?
   a. 625
   b. 125
   c. 3125
   d. 5

   ANS: C
   $x^{3/2} x^{98} x^{-97} = x^{5/2}$
   For $x = 25$, we have $25^{5/2} = 5^5 = 3125$

   PTS: 1 DIF: Grade 8 REF: 1AL1.2
   OBJ: Students understand and use such operations as taking the Students understand determining a root, simplifying a root and the meaning of a fractional power (rational exponents) and understand and use the rules of exponents.actional power. They understand and use the rules of exponents.
   TOP: Algebra 1 KEY: exponents | rational exponents MSC: Dynamic

3. If $x = 25$, what is: $x^{-3/2}x^{96} / x^{97}$?

a. $-\frac{1}{3125}$

b. 125

c. $-\frac{1}{125}$

d. 3125

e. $\frac{1}{3125}$

f. $\frac{1}{125}$

ANS: E

$x^{-3/2}x^{96} / x^{97} = x^{-5/2}$

For $x = 25$, we have: $25^{-5/2} = 5^{-5} = \frac{1}{3125}$

PTS: 1 DIF: Grade 8 REF: 1AL1.2
OBJ: Students understand determining a root, simplifying a root and the meaning of a fractional power (rational exponents) and understand and use the rules of exponents.
TOP: Algebra 1 KEY: exponents | rational exponents MSC: Dynamic