1. Simplify the exponential expression.
\[
\frac{14x^{11}y^{10}z^3}{2x^7y^4z^2}
\]

- **A.** \(7x^4y^6\)
- **B.** \(7x^4y^6z\)
- **C.** \(x^4y^6z\)
- **D.** \(7x^3y^5z\)

2. Evaluate the expression without using a calculator.
\[
49^{-3/2}
\]

- **A.** \(-343\)
- **B.** \(\frac{1}{343}\)
- **C.** \(-\frac{1}{343}\)
- **D.** \(343\)

3. Perform the indicated operations.
\[
(3x^4y^2 + 12x^3y + 4y) - (9x^4y^2 + 6x^3y + 11y + 2x)
\]

- **A.** \(-6x^4y^2 + 6x^3y - 7y + 2x\)
- **B.** \(-6x^4y^2 - 6x^3y - 7y - 2x\)
- **C.** \(-6x^4y^2 + 6x^3y - 7y - 2x\)
- **D.** \(12x^4y^2 + 18x^3y + 15y + 2x\)

4. Factor the following polynomial using the formula for the sum or difference of two cubes.
\[
64x^3 + 125
\]

- **A.** \((4x + 5)(16x^2 + 20x + 25)\)
- **B.** \((4x + 5)(16x^2 + 25)\)
- **C.** \((4x - 5)(16x^2 + 20x + 25)\)
- **D.** \((4x + 5)(16x^2 - 20x + 25)\)
5. Simplify the expression.

\[ \frac{\sqrt{X} - \frac{1}{9\sqrt{X}}}{\sqrt{X}} \]

- **A.** \( 1 - \frac{1}{9} \)
- **B.** \( 1 - \frac{1}{9x} \)
- **C.** \( \frac{\sqrt{X} - \frac{1}{9\sqrt{X}}}{\sqrt{X}} \)
- **D.** \( x^2 - \frac{1}{9x} \)

6. Solve the formula for \( h \).

\[ S = 2\pi rh + 2\pi r^2 \]

- **A.** \( h = \frac{S}{2\pi r} - 1 \)
- **B.** \( h = \frac{S - 2\pi r^2}{2\pi r} \)
- **C.** \( h = S - r \)
- **D.** \( h = 2\pi (S - r) \)

7. Using data from 1996-1998, the annual number of cars sold at a certain dealership can be modeled by the formula \( y = 2x + 5 \), where \( y \) is the number of cars, in thousands, sold \( x \) years after 1996. According to this formula, in which years will the number of cars sold exceed 21 thousand?

- **A.** Years after 2004
- **B.** Years after 2006
- **C.** Years after 2008
- **D.** Years after 2002
1. B
2. B
3. C
4. D
5. B
6. B
7. A