1. Simplify the exponential expression.

\[ \left( \frac{x^2}{2} \right)^3 \]

- A. \( \frac{x^6}{2} \)
- B. \( \frac{x^6}{8} \)
- C. \( \frac{x^5}{8} \)
- D. \( \frac{x^5}{2} \)

2. Evaluate the expression without using a calculator.

\[ 81^{-3/2} \]

- A. \(-729\)
- B. \(\frac{1}{729}\)
- C. \(729\)
- D. \(-\frac{1}{729}\)

3. Perform the indicated operations.

\[ (11x^2y - 6xy + 10) + ( - 10x^2y + 12xy - 7) \]

- A. \(21x^2y + 18xy + 17\)
- B. \(6x^3y^2 + 3\)
- C. \(-x^2y - 18xy + 17\)
- D. \(x^2y + 6xy + 3\)
4. Factor the following polynomial completely, or state that the polynomial is prime.

\[ 12x^3 - 432x \]

○ A. \( 12x(x + 6)(x - 6) \)
○ B. \( x(x + 6)(12x - 72) \)
○ C. \( 12(x + 6)(x^2 - 6x) \)
○ D. prime

5. Simplify the expression.

\[
\frac{\sqrt{2-x^2} + \frac{x^2}{\sqrt{2-x^2}}}{2-x^2}
\]

○ A. \( \frac{1 + x^2}{(2-x^2)^{3/2}} \)
○ B. \( \frac{2 + 2x^2}{(2-x^2)^{3/2}} \)
○ C. \( \frac{\sqrt{2-x^2} + \frac{x^2}{\sqrt{2-x^2}}}{2-x^2} \)
○ D. \( \frac{2}{(2-x^2)^{3/2}} \)

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

\[ I = \frac{nE}{nr + R} \]

○ A. \( n = \frac{IR}{Ir + E} \)
○ B. \( n = \frac{-R}{Ir - E} \)
○ C. \( n = IR(Ir - E) \)
○ D. \( n = \frac{IR}{E - Ir} \)
7. When making a long distance call from a certain pay phone, the first three minutes of a call cost $1.65. After that, each additional minute or portion of a minute of that call costs $0.25. Use an inequality to find the number of minutes one can call long distance for $4.90.

- **A.** 16 minutes or fewer
- **B.** 20 minutes or fewer
- **C.** 13 minutes or fewer
- **D.** 3 minutes or fewer
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