Problems

1) Simplify the expression. Use positive exponents. Assume variables represent nonnegative numbers.

\[
\frac{-18a^4b^6}{-9a^3b^8}
\]

2) Evaluate the given expression by performing the indicated operations.

\[-8 - \frac{-12}{3(2 - 5)} - 4(6 - 9)\]

3) Simplify the given expression. Express results with positive exponents only.

\[
\left(\frac{-3b^2}{z^5}\right)^{-3}
\]

4) Factor the following expression completely.

\[5a^4 - 125a^2\]

5) Simplify the following expression. Be sure to factor completely.

\[
\frac{3ax^2 - 9ax}{10x^2 + 5x} \times \frac{2x^2 + x}{a^2x - 3a^2}
\]

6) Simplify the given algebraic expression.

\[9x - \left[6 - (x - 2) + 5x\right]\]

7) Perform the indicated multiplications completely. There should be no parentheses in your answer.

\[-3(3xw^4)(2x - 3w^2)\]

8) Factor the following expression completely. Be sure to show at least one intermediate step.

\[2ab^3 - 6a^2b + 8a^3b^3\]
9) Solve the given equation for $x$.

$$2x = \frac{4 - 2(6 - 7x)}{3}$$

10) Solve the given equation for $x$.

$$u = u_0 - abx$$
Problems

1) Simplify the expression. Use positive exponents. Assume variables represent nonnegative numbers.

\[ \frac{-15a^7b^3}{-3a^3b^6} \]

2) Evaluate the given expression by performing the indicated operations.

\[ -7 - \frac{-12}{3(2-7)} - 4(3-9) \]

3) Simplify the given expression. Express results with positive exponents only.

\[ \left( \frac{-3a^2}{u^2} \right)^{-3} \]

4) Factor the following expression completely.

\[ 81 - y^4 \]

5) Simplify the following expression. Be sure to factor completely.

\[ \frac{a^2-a}{3a+9} + \frac{a^2+2a+1}{18-2a^2} \]

6) Simplify the given algebraic expression.

\[ 7x - [3 - (x - 4) + 5x] \]

7) Perform the indicated multiplications completely. There should be no parentheses in your answer.

\[ -2(4xw^3)(7x - 3w^4) \]

8) Factor the following expression completely. Be sure to show at least one intermediate step.

\[ 16ab^3 - 4a^2b + 8a^3b^3 \]
9) Solve the given equation for $x$.

$$3x = \frac{5 - 2(6 - 7x)}{2}$$

10) Solve the given equation for $x$.

$$z = z_0 - abx$$
Problems

1) Simplify the expression. Use positive exponents. Assume variables represent nonnegative numbers.
\[ \frac{-10a^5b^6}{-5a^3b^5} \]

2) Evaluate the given expression by performing the indicated operations.
\[ -6 - \frac{-12}{3(2-6)} - 4(5-9) \]

3) Simplify the given expression. Express results with positive exponents only.
\[ \left( \frac{-4c^2}{t^5} \right)^{-5} \]

4) Factor the following expression completely.
\[ x^4 - 5x^2 - 36 \]

5) Simplify the following expression. Be sure to factor completely.
\[ \frac{4x^2 - 36}{x^3 - 25x} \times \frac{7x - 35}{3x^2 + 9x} \]

6) Simplify the given algebraic expression.
\[ 5x - [6 - (2x - 5) + 7x] \]

7) Perform the indicated multiplications completely. There should be no parentheses in your answer.
\[ -5(3xw^4)(2x^2 - 3w) \]

8) Factor the following expression completely. Be sure to show at least one intermediate step.
\[ 9ab^3 + 15a^2b - 3a^3b^3 \]
9) Solve the given equation for \( x \).

\[ 2x = \frac{7 - 2(6 - 2x)}{3} \]

10) Solve the given equation for \( x \).

\[ y = y_0 - cdx \]
Problems

1) Simplify the expression. Use positive exponents. Assume variables represent nonnegative numbers.

\[
\frac{-14a^4b^2}{-7ab^8}
\]

2) Evaluate the given expression by performing the indicated operations.

\[
-8 - \frac{-12}{3(2-5)} - 4(6-9)
\]

3) Simplify the given expression. Express results with positive exponents only.

\[
\left(\frac{-5f^2}{g^5}\right)^{-3}
\]

4) Factor the following expression completely.

\[3x^4 - 33x^2 + 30\]

5) Simplify the following expression. Be sure to factor completely.

\[
\frac{x^2 + 2x + 1}{18 - 2x^2} \cdot \frac{x^2 - x}{3x + 9}
\]

6) Simplify the given algebraic expression.

\[9x - [5 - (x - 3) + 6x]\]

7) Perform the indicated multiplications completely. There should be no parentheses in your answer.

\[-2(4xw^3)(2x - 2w^3)\]

8) Factor the following expression completely. Be sure to show at least one intermediate step

\[6a^2b + 10ab^3 - 8a^3b^3\]
9) Solve the given equation for $x$.

$$2x = \frac{3 - 2(4 - 7x)}{3}$$

10) Solve the given equation for $x$.

$$w = w_0 - adx$$