1. Standard form for an exponential expression is $A \cdot B^x$. Find the value of A for the exponential expression $5^{(x+3)}$.

1. 15 2. 5
3. 3 4. 125

5^{x+3}

$= 5^x 5^3 = 5^x \cdot 125$

$= 125 \cdot 5^x$

$= A \cdot B^x$

2. Simplify the expression $\frac{3x^{-4}y^5}{(2x^3y^{-7})^{-2}}$ using only positive exponents.

1. $\frac{y^9}{12x^2}$
2. $\frac{12x^2}{y^9}$
3. $\frac{3y^{12}}{2x}$
4. $\frac{2x}{3y^{12}}$

$\frac{3x^{-4}y^5}{2^{-2}x^{-6}y^{14}} = \frac{3 \cdot 2^2 x^{-4-(-6)} y^{5-14}}{}$

$= 12x^2y^{-9}$

$= \frac{12x^2}{y^9}$

3. Simplify: $\left(\frac{9x^2z^4}{49x^{-2}}\right)^{1/2}$

$= \frac{9^{1/2}x^1z^2}{49^{1/2}x^{-1}}$

$= \frac{\sqrt{9}\,x^{1-(-1)}z^2}{\sqrt{49}} = \frac{3x^2z^2}{7}$

1. $\frac{9.5xz^2}{24.5x^{-1}}$
2. $\frac{3xz^2}{7x^{-1}}$
3. $\frac{3xz^2}{7x}$
4. $\frac{3x^2z^2}{7}$

4. Simplify: $\frac{27k^5m^8}{(4k^3)(9m^2)}$

$= \frac{\cancel{27}^{3}k^5m^8}{\cancel{36}\,k^3m^2}$
4

$= \frac{3k^2m^6}{4}$

1. $\frac{27k^2m^6}{36}$
2. $\frac{3k^8m^{10}}{4}$
3. $\frac{27k^8m^{10}}{36}$
4. $\frac{3k^2m^6}{4}$

5. What is the product of $-3x^2y$ and $(5xy^2 + xy)$?

1. $-15x^3y^3 - 3x^3y^2$
2. $-15x^3y^3 - 3x^3y$
3. $-15x^2y^2 - 3x^2y$
4. $-15x^3y^3 + xy$

$-15x^3y^3 - 3x^3y^2$

6. Which expression is equivalent to $x^{-1} \cdot y^2$?

1. xy^2
2. $\frac{y^2}{x}$
3. $\frac{x}{y^2}$
4. xy^{-2}

$\frac{y^2}{x}$