1. If x<0 and y>0, determine the sign of the real number.

$$x^{8}y$$

1. Simplify.

(7)|6-18|

1. Rewrite the following expression without using the absolute value symbol and simplify the result.

|6-x| if x < 6

1. Approximate the real-number expression. Express the answer in scientific notation accurate to four significant figures.

$$\sqrt{\left|5.38-4.94 ∙ 10^{4}\right|+ 10^{5}}$$

1. Express the number in decimal form.

9.3 x 10-5

1. In astronomy, distances to stars are measured in light years. One light year is the distance a ray of light travels in one year. If the speed of light is approximately 186,000 miles per second, estimate the number of miles in three light years.
2. Simplify the expression. $(-\frac{32x^{5}}{y^{-10}})^{\frac{2}{5}}$
3. Simplify the expression. $\frac{(x^{18}y^{9})^{\frac{-1}{9}}}{(x^{10}y^{5})^{\frac{1}{5}}}$
4. Simplify the expression and rationalize the denominator.

$$\sqrt{\frac{2x}{11y^{3}}}$$

1. Rewrite the expression.

$$(c^{m}+1)^{\frac{1}{m}}$$

1. Express as a polynomial.

(10x3 + 8x2 – 2x + 3) + (7x3 – 8x2 – 4x)

1. Express as a polynomial.

(3x+13)(4x2 + 7x - 4)

1. Express as a polynomial.

(x2+14)(x2-1)

1. (4x+7y)3
2. Simplify the expression.

$$\frac{2x^{2}+23x+56}{2x^{2}-11x-63}$$

1. Simplify the expression.

$\frac{2a^{2}+15a+25}{a^{4}-625}$ $÷ \frac{4a^{2}+20a+25}{a^{2}-5a}$

1. Simplify the expression.

 $\frac{25x}{7x-25}+ \frac{125}{7x^{2}-25x}+ \frac{5}{x}$