

- Express the following number in scientific notation: .0001093
- Express the following number in ordinary decimal notation: 4.03267×10^4
- True or False:
 - $(a + b)c = ac + bc$
 - If $ab = 1$, then either $a = 1$ or $b = 1$ or both a and b equal 1
 - $\frac{a}{b} + \frac{c}{d} = \frac{a + c}{b + d}$
 - $\frac{a + c}{b} = \frac{a}{b} + \frac{c}{b}$
 - $5^{\frac{1}{2}} = \frac{1}{5^2}$
 - $(a + b)^2 = a^2 + b^2$
 - $x = 0$ is a solution to the equation $\frac{x^2}{x} = 0$

- Simplify the following:

- $\left(\frac{3}{4}\right)^{-2}$
- $8^{\frac{4}{3}}$
- $\left(\frac{y^{12}}{25z^4}\right)^{-\frac{3}{2}}$
- $\sqrt[5]{32x^{11}y^{14}z^8}$
- $\left(\frac{(5xyz)^2z^{-2}}{2x^{-2}y^2z^{-4}}\right)^{-1}$

- Rationalize the denominator in the following expressions:

- $\frac{3x}{\sqrt[3]{x}}$
- $\frac{2x + 3}{\sqrt{2x - 1}}$

- Perform the indicated operations and simplify:

- $3(2x^3 - x^2 + 5x) - 2x(3x^3 - 2x^2 + 5x - 3)$
- $(2x^2 + 3x - 2)(x - 2)$
- $(2x + 1)^3$
- $(x^{\frac{1}{3}} + y^{\frac{1}{3}})(x^{\frac{2}{3}} - x^{\frac{1}{3}}y^{\frac{1}{3}} + y^{\frac{2}{3}})$

7. Factor each of the following expressions completely:

- (a) $2x^2 + x - 6$
- (b) $50x^2 + 45x - 18$
- (c) $9x^2 - 49y^6$
- (d) $8x^3 - y^3$
- (e) $6x^3y - 27x^2y - 15xy$
- (f) $3x^3 + x^2 - 3x - 1$
- (g) $x^6 - 1$

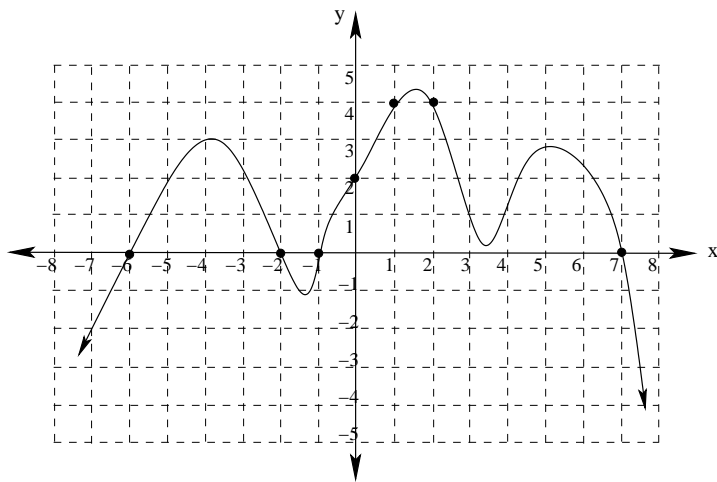
8. Simplify the following expressions:

- (a) $\frac{3x^2 - 10x + 3}{x^2 - 1} \cdot \frac{x^2 + x - 2}{x^2 - 9}$
- (b) $\frac{2x^2 + 4}{2x^2 + 7x - 4} - \frac{x - 1}{x + 4}$
- (c) $\frac{\frac{1}{x} + \frac{3}{x-2}}{\frac{4}{x-1} - \frac{2}{x-2}}$
- (d) $\frac{\frac{3}{2x+2h+1} - \frac{3}{2x+1}}{h}$

9. Sketch the graphs of the following equations:

- (a) $y = 3x - 2$
- (b) $y = 4 - x^2$

10. Based on the graph given below:



- (a) Find the coordinates of all x intercepts.
- (b) Find the coordinates of all y intercepts.
- (c) Find the x -value(s) when $y = 4$