1. Simplify: \((-4x^2 - 5x + 7) - (-3x^2 - 2x - 9)\)
2. Multiply: \((2x - 7)(3x^2 - 4x - 5)\)
3. Divide: \(\frac{x^3 - 5x^2 + 12x - 18}{x-3}\)
4. A shot put is thrown through the air and it’s flight is modeled by the equation: 
   \[ h = -16d^2 + 160d + 896 \]
   where \( h \) = height in feet and \( d \) = horizontal distance in feet. Find the horizontal distance it travels upon hitting the ground.
5. Simplify without negative exponents: \((2a^2b^{-3})(-5a^{-3}b^4)\)
6. Simplify without negative exponents: \(\left(\frac{4m^3n^{-2}p}{6m^{-2}n^3p^2}\right)^2\)
7. Solve by factoring: \(x^2 = 4x + 12\)
8. Solve by factoring: \(2x^2 - 11x + 12 = 0\)
9. Factor: \(4x^2y^3 - 6x^3y^5\)
10. Subtract: \(\frac{3x - 8}{x-2} - \frac{3}{x^2 + 3x - 10}\)
11. Divide: \(\frac{x^2 + x - 12}{4x+8} \div \frac{5x-15}{x^2 - 2x - 8}\)
12. Solve: \(x - 4 = \frac{-x}{x-2} + 2\)
13. Solve: \(-2x + 4 > x - 8\)
14. Graph by hand: \(y = x^2 - 2x - 8\)

Solutions:
1. \(-x^2 - 3x + 16\)  
2. \(6x^3 - 29x^2 + 18x + 35\)  
3. \(x^2 - 2x + 6\)  
4. 14 feet  
5. \(-\frac{10b}{a}\)  
6. \(\frac{4m^10}{9n^12p^2}\)
7. \(x = 6 \& -2\)  
8. \(x = \frac{3}{2} \& 4\)  
9. \(2x^2y^3(2 - 3xy^2)\)  
10. \(\frac{3x^2 + 7x - 43}{x^2 + 3x - 10}\)  
11. \(\frac{x^2 - 16}{20}\)  
12. \(x = 3 \& 4\)  
13. \(x < 4\)  
14.