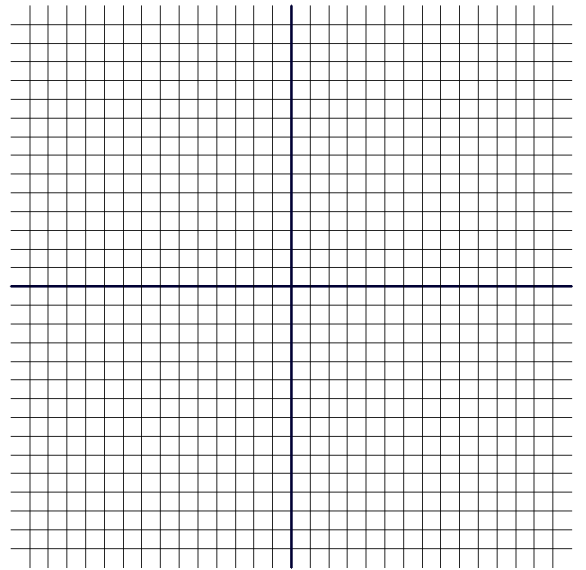


Sample Math 65 Final Exam Questions

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 its 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: $\left(\frac{4m^3n^{-2}p}{6m^{-2}n^4p^2}\right)^2$
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. $\frac{4m^{10}}{9n^{12}p^2}$
 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.

