

Please show all your work to ensure full credit.

1. Solve the following equations. If there are extraneous solutions, so state.

a. $\sqrt{x} + 1 = \sqrt{x+7}$

b. $\frac{3}{x-2} - \frac{5}{x+2} = 5$

c. $\frac{5}{x^2-7x+6} = 3 + \frac{1}{x-6}$

d. $\frac{2x^2+2x-10}{x^2-9} - \frac{x-2}{x-3} = \frac{-2}{x+3}$

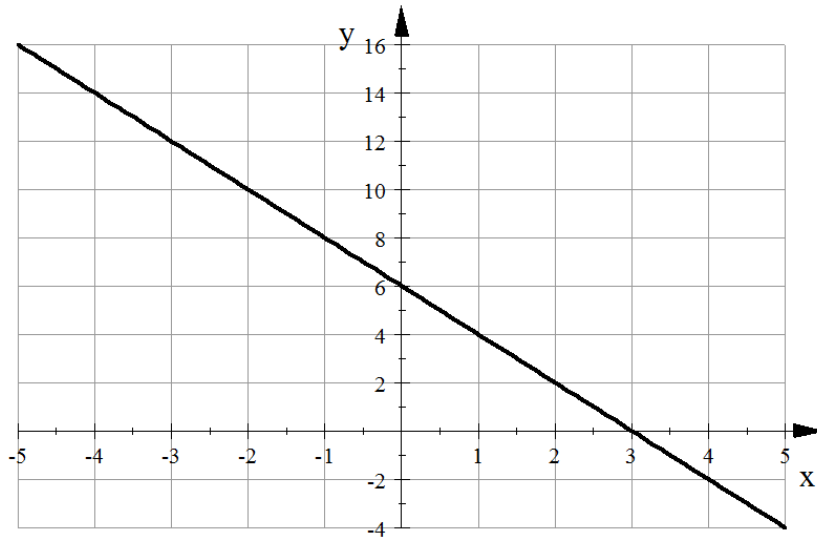
2. Solve the following inequalities. Write your answer in graphical and interval notations.

a. $x^2 - 3x > 10$

b. $\frac{3}{x-2} \leq 5$

3. Find the distance and midpoint between the points $P(-2,1)$ and $Q(3,5)$.

4. Find the equation of the line below.



5. Find the equation of the line passing through the point $(-1,1)$ and parallel to the line $2x = -3y + 6$.