

**Answer each of the following questions.**

1. Find the midpoint of the  $\overline{NM}$  with M(2, -8) and N(6, -4).
2. Find the slope of a line that passes through (-7, 1) and (3, -9).
3. Find the length of  $\overline{UK}$  with U(5, -4) and K(0, 9).
4. Find the x-intercept and y-intercept of the line with the equation  $5x - 3y = 15$ .
5. Find the slope and y-intercept of the line whose equation is  $-6x + 3y = 15$

6. Decide if the given pair of equations is parallel or perpendicular.  
 $y - 3x = -5$  and  $y = \frac{-1}{3}x + 4$ . Explain your decision.
7. Write an equation of the line that passes through  $(-1, 2)$  and  $(5, 3)$ . Express your answer in **standard form**.
8. Write an equation of the line that passes through  $(4, -8)$  and is parallel to  $y = 5x + 6$ . Express your answer in **slope intercept form**.
9. Write an equation of the horizontal line that passes through  $(7, -8)$ .
10. Find the value of the discriminant of  $3x^2 - 6x + 10 = 0$ . **State the nature of the roots.**

**Simplify each expression.**

11.  $\sqrt{-12}$

12.  $\frac{2}{4-i}$

13.  $(3 - 2i) - 2(5 + i)$

**Solve each quadratic equation by the *method indicated*.**

15.  $x^2 + x = 6$   
(Factoring)

16.  $m^2 + 6m + 2 = 0$   
(Complete the Square)

**Sketch the graph of the parabola. Identify the vertex, axis of symmetry, x-intercept, and y-intercept.**

18.  $y = w^2 - 2w - 8$

