NAME _____ DATE _____ PERIOD _____

Practice

Normal Form of a Linear Equation

Write the standard form of the equation of each line, given p, the length of the normal segment, and ϕ, the angle the normal segment makes with the positive x-axis.

1. $p = 4, \phi = 30°$

2. $p = 2\sqrt{2}, \phi = \frac{\pi}{4}$

3. $p = 3, \phi = 60°$

4. $p = 8, \phi = \frac{5\pi}{6}$

5. $p = 2\sqrt{3}, \phi = \frac{7\pi}{4}$

6. $p = 15, \phi = 225°$

Write each equation in normal form. Then find the length of the normal and the angle it makes with the positive x-axis.

7. $3x - 2y - 1 = 0$

8. $5x + y - 12 = 0$

9. $4x + 3y - 4 = 0$

10. $y = x + 5$

11. $2x + y + 1 = 0$

12. $x + y - 5 = 0$