7-7

NAME _____ DATE _____ PERIOD _____

Practice

Distance From a Point to a Line

Find the distance between the point with the given coordinates and the line with the given equation.

1. $(-1, 5)$, $3x - 4y - 1 = 0$

$\frac{24}{5}$

2. $(2, 5)$, $5x - 12y + 1 = 0$

$\frac{49}{13}$

3. $(1, -4)$, $12x + 5y - 3 = 0$

$\frac{11}{13}$

4. $(-1, -3)$, $6x + 8y - 3 = 0$

$\frac{33}{10}$

Find the distance between the parallel lines with the given equations.

5. $2x - 3y + 4 = 0$

$y = \frac{2}{3}x + 5$

$\frac{11\sqrt{13}}{13}$

6. $4x - y + 1 = 0$

$4x - y - 8 = 0$

$\frac{9\sqrt{17}}{17}$

Find equations of the lines that bisect the acute and obtuse angles formed by the lines with the given equations.

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

$x - y + 4 = 0$

$(\sqrt{2} + \sqrt{5})x + (2\sqrt{2} - \sqrt{5})y - 3\sqrt{2} + 4\sqrt{5} = 0;$
$(\sqrt{2} - \sqrt{5})x + (2\sqrt{2} + \sqrt{5})y - 3\sqrt{2} - 4\sqrt{5} = 0$

8. $9x + 12y + 10 = 0$

$3x + 2y - 6 = 0$

$(45 + 9\sqrt{13})x + (30 + 12\sqrt{13})y - 90 + 10\sqrt{13} = 0;$
$(9\sqrt{13} - 45)x + (12\sqrt{13} - 30)y + 90 + 10\sqrt{13} = 0$