2.5

1) $y = 2x + 4$
$m = 2$
$\parallel m = 2$

3) $y = 4x - 5$
$m = 4$
$\parallel m = 4$

5) $x - y = 4$
$-x \qquad -x$
$\frac{(-y)}{-1} = \frac{-x}{-1} + \frac{4}{-1}$
$y = x - 4$
$m = 1$
$\parallel m = 1$

7) $7x + y = -2$
$-7x \qquad -7x$
$y = -7x - 2$
$m = -7$
$\parallel m = -7$

9) $x = 3$
$m = undefined$
$\perp m = 0$

11) $y = -\frac{1}{3}x$
$m = -\frac{1}{3}$
$\perp m = 3$

13) $x - 3y = -6$
$-x \qquad -x$
$\frac{-3y}{-3} = \frac{-x}{-3} - \frac{6}{-3}$
$y = \frac{1}{3}x + 2$
$m = \frac{1}{3}$
$\perp m = 3$

15) $x + 2y = 8$
$-x \qquad -x$
$\frac{2y}{2} = \frac{-x}{2} + \frac{8}{2}$
$y = -\frac{1}{2}x + 4$
$m = -\frac{1}{2}$
$\perp m = 2$

17) $Through\ (2,5), par\ to\ x = 4$
$m = undefined$
$\parallel m = undefined$
$x = 2$

19) $Through\ (3,4), par\ to\ y = \frac{9}{2}x - 5$
$m = \frac{9}{2}$
$\parallel m = \frac{9}{2}$
$y - 4 = \frac{9}{2}(x - 3)$

21) $Through\ (2,3), par\ to\ x = 0$
$m = \frac{7}{5}$
$\parallel m = \frac{7}{5}$
$y - 3 = \frac{7}{5}(x - 2)$

23) $Through\ (4,2), par\ to\ x = 0$
$m = undefined$
$\parallel m = underfined$
$x = 4$

25) $Through\ (1,-5), perp\ to\ y = x + 1$
$m = 1$
$\perp m = -1$
$y + 5 = -1(x - 1)$

27) $Through\ (5,2) perp\ to\ y = -5x - 3$
$m = -5$
$\perp m = \frac{1}{5}$
$y - 2 = \frac{1}{5}(x - 5)$

29) $Through\ (4,2) perp\ to\ y = 4x$

$m = 4$

$\perp\ m = -\frac{1}{4}$

$y - 2 = -\frac{1}{4}(x - 4)$

31) $Through\ (2,-2), perp\ to\ y = \frac{1}{3}x$

$m = \frac{1}{3}$

$\perp\ m = -3$

$y + 2 = -3(x - 2)$

33) $Through\ (4,-3), par\ to\ y = -2x$

$m = -2$

$\parallel\ m = -2$

$y + 3 = -2(x - 4)$

$y + 3 = -2x + 8$

$-3 \qquad -3$

$y = -2x + 5$

35) $Through\ (-3,1), par\ to\ y = -\frac{4}{3}x - 1$

$m = -\frac{4}{3}$

$\parallel\ m = -\frac{4}{3}$

$y - 1 = -\frac{4}{3}(x + 3)$

$y - 1 = -\frac{4}{3}x - 4$

$+1 \qquad +1$

$y = -\frac{4}{3}x - 3$

37) $Through\ (-4,-1)\ par\ y = -\frac{1}{2}x + 1$

$m = -\frac{1}{2}$

$\parallel\ m = -\frac{1}{2}$

$y + 1 = -\frac{1}{2}(x + 4)$

$y + 1 = -\frac{1}{2}x - 2$

$-1 \qquad -1$

$y = -\frac{1}{2}x - 3$

39) $Through\ (-2,-1)\ par\ y = -\frac{1}{2}x - 2$

$m = -\frac{1}{2}$

$\parallel\ m = -\frac{1}{2}$

$y + 1 = -\frac{1}{2}(x + 2)$

$y + 1 = -\frac{1}{2}x - 1$

$-1 \qquad -1$

$y = -\frac{1}{2}x - 2$

41) $Through\ (4,3), perp\ to\ y = -x - 1$

$m = -1$

$\perp\ m = 1$

$y - 3 = 1(x - 4)$

$y - 3 = x - 4$

$+3 \qquad +3$

$y = x - 1$

43) $Through\ (5,2), perp\ to\ x = 0$

$m = undefined$

$\perp\ m = 0$

$y = 2$

45) $Through\ (-2,5), perp\ to\ y = x - 2$

$m = 1$

$\perp\ m = -1$

$y - 5 = -1(x + 2)$

$y - 5 = -x - 2$

$+5 \qquad +5$

$y = -x + 3$

47) $Through\ (4,-3), perp\ to\ y = \frac{1}{2}x - 3$

$m = \frac{1}{2}$

$\perp\ m = -2$

$y + 3 = -2(x - 4)$

$y + 3 = -2x + 8$

$-3 \qquad -3$

$y = -2x + 5$