

Algebra 2

Topic 2 // \perp and // lines // Practice B

P: 1 2 3 4 5 6

→ Given the following line and point, find a parallel and perpendicular line for each

1.) $y = 3x + 6$ (6,3)

3.) $y = -2x + 16$ (8,-3)

5.) $y = \frac{1}{5}x + 1$ (15,3)

2.) $y = \frac{1}{5}x - 10$ (5,2)

4.) $y = -3x + 8$ (12,1)

6.) $y = -\frac{1}{3}x + 6$ (9,2)

1.) $y = 3x + 6$ (6,3)
 x_1, y_1

2.) $y = \frac{1}{5}x - 10$ (5,2)
 x_1, y_1

// $\rightarrow m = 3$

$\perp \rightarrow m = -\frac{1}{3}$

// $\rightarrow m = \frac{1}{5}$

$\perp \rightarrow m = -5$

$y - 3 = 3(x - 6)$

$y - 3 = -\frac{1}{3}(x - 6)$

$y - 2 = \frac{1}{5}(x - 5)$

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

$y - 3 = 3x - 18$
 $\quad +3 \quad +3$

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

$y - 2 = \frac{1}{5}x - 1$
 $\quad +2 \quad +2$

$y - 2 = -5x + 25$
 $\quad +2 \quad +2$

$y = 3x - 15$

$y = -\frac{1}{3}x + 5$

$y = \frac{1}{5}x + 1$

$y = -5x + 27$

3.) $y = -2x + 16$ (8,-3)
 x_1, y_1

4.) $y = -3x + 8$ (12,1)
 x_1, y_1

// $\rightarrow m = -2$

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

// $\rightarrow m = -3$

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

$y - (-3) = -2(x - 8)$

$y - (-3) = \frac{1}{2}(x - 8)$

$y - 1 = -3(x - 12)$

$y - 1 = \frac{1}{3}(x - 12)$

$y + 3 = -2x + 16$
 $\quad -3 \quad -3$

$y + 3 = \frac{1}{2}x - 4$
 $\quad -3 \quad -3$

$y - 1 = -3x + 36$
 $\quad +1 \quad +1$

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

$y = -2x + 13$

$y = \frac{1}{2}x - 7$

$y = -3x + 37$

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

5.) $y = \frac{1}{5}x + 1$ (15,3)
 x_1, y_1

6.) $y = -\frac{1}{3}x + 6$ (9,2)
 x_1, y_1

// $\rightarrow m = \frac{1}{5}$

$\perp \rightarrow m = -5$

// $\rightarrow m = -\frac{1}{3}$

$\perp \rightarrow m = 3$

$y - 3 = \frac{1}{5}(x - 15)$

$y - 3 = -5(x - 15)$

$y - 2 = -\frac{1}{3}(x - 9)$

$y - 2 = 3(x - 9)$

$y - 3 = \frac{1}{5}x - 3$
 $\quad +3 \quad +3$

$y - 3 = -5x + 75$
 $\quad +3 \quad +3$

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

$y - 2 = 3x - 27$
 $\quad +2 \quad +2$

$y = \frac{1}{5}x$

$y = -5x + 78$

$y = -\frac{1}{3}x + 5$

$y = 3x - 25$

