

Lines: Lesson 6

Equations from 2 Points: Worksheet 1 *Answers!*

MATH 4 ALL

Name: _____

The first column is solved by point-slope ^(Method 1) & the second column is using $y=mx+b$ ^(Method 2)
 Find equations of lines between the following points:
 Write your answers in slope intercept form.

1. (-3, 14) and (5, -10) $m = \frac{-10-14}{5-(-3)} = \frac{-24}{8} = -3$ 2. (4, 2) and (-12, -2) $m = \frac{-2-2}{-12-4} = \frac{-4}{-16} = \frac{1}{4}$

$y-14 = -3(x+3)$
 $y-14 = -3x-9$
 $\quad \quad \quad +14$
 $y = -3x+5$

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

3. (-14, 6) and (-7, -3) $m = \frac{-3-6}{-7-(-14)} = \frac{-9}{7}$

$y-6 = -\frac{9}{7}(x+14)$
 $y-6 = -\frac{9}{7}x-18$
 $\quad \quad \quad +6$
 $y = -\frac{9}{7}x-12$

4. (-8, 11) and (-8, 7) $m = \frac{7-11}{-8-(-8)} = \frac{-4}{0} \leftarrow \parallel$
 $x = -8$

5. (-4, 6) and (4, -14) $m = \frac{-14-6}{4-(-4)} = \frac{-20}{8} = -\frac{5}{2}$ 6. (-10, -10) and (5, -7) $m = \frac{-7-(-10)}{5-(-10)} = \frac{3}{15} = \frac{1}{5}$

$y-6 = -\frac{5}{2}(x+4)$
 $y-6 = -\frac{5}{2}x-10$
 $\quad \quad \quad +6$
 $y = -\frac{5}{2}x-4$

$-10 = \frac{1}{5}(-10) + b$
 $-10 = -2 + b$
 $b = -8$
 $y = \frac{1}{5}x - 8$

7. (4, 9) and (-2, 9) $m = \frac{9-9}{-2-4} = \frac{0}{-6} = 0$

$y = 9$

8. (-10, 16) and (4, 2) $m = \frac{2-16}{4-(-10)} = \frac{-14}{14} = -1$

$16 = -1(-10) + b$
 $16 = 10 + b$
 $b = 6$
 $y = -x + 6$

9. (-2, 26) and (4, -22) $m = \frac{-22-26}{4-(-2)} = \frac{-48}{6} = -8$ 10. (1, 15) and (1, -2) $m = \frac{-2-15}{1-1} = \frac{-17}{0} \leftarrow \parallel$

$y-26 = -8(x+2)$
 $y-26 = -8x-16$
 $\quad \quad \quad +26$
 $y = -8x+10$

$x = 1$