Name: __Key__   Date: _____   Period: _____

3.5 Equations of Lines CYU

| CONCEPTS	BASIC	INTERMEDIATE	ADVANCED
Graphing slope-intercept form	1, 2, 3	4	5
Writing slope-intercept form	6, 7, 9	8, 10, 11, 12	13 – 15
Writing point-slope form	11	12	13 - 15
Writing standard form		11, 12	13 - 15
Finding slope from two points	13 - 15		
Writing horizontal & vertical lines	16, 17		
Writing parallel & perpendicular lines		18 - 21	18 - 21

Use slope-intercept form to graph each equation. Show work to earn full credit.
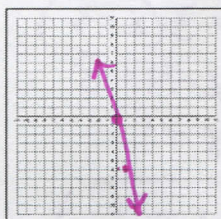
1. $y = -4x - 1$ 2. $y = \frac{1}{4}x - 3$ 3. $y = -6x$ 4. $3x - 4y = 4$ 5. $x = \frac{3}{2}y$
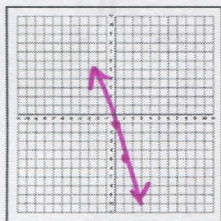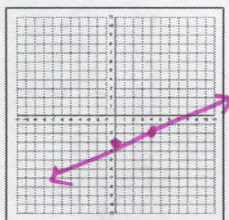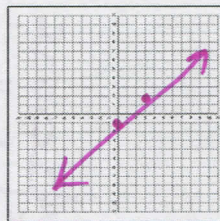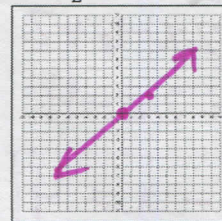
$m = -4 \quad b = -1$ $m = \frac{1}{4} \quad b = -3$ $m = -6 \quad b = 0$ $m = \frac{3}{4} \quad b = 1$ $m = \frac{2}{3} \quad b = 0$

Write an equation of the line with each given slope and y-intercept.

6. m = 5 & b = 3   7. m = 2 & $b = \frac{3}{4}$ 8. m = 0 & b = -8   9. m = $-\frac{4}{5}$ & b = 0   10. m = undefined & x = 2

$y = 5x + 3$ $y = 2x + \frac{3}{4}$ $y = -8$ $y = -\frac{4}{5}x$ $x = 2$

Find an equation of each line with the given slope that passes through the given point. Write the equation in all three forms.

11. m = 6 & (2, 2)

$y = 6x - 12 + 2$

$y = 6x - 10$

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

point-slope form: $y - 2 = 6(x - 2)$

slope-intercept form: $y = 6x - 10$

standard form: $6x - y = 10$

12. $m = -\frac{1}{2}$ & $(-3, 0)$

point-slope form: $y - 0 = -\frac{1}{2}(x+3)$

slope-intercept form: $y = -\frac{1}{2}x - \frac{3}{2}$

standard form: $x + 2y = -3$

$2y = -x - 3$

Find an equation of the line passing through each pair of points. Write the equation in standard form.

13. (3, 2) & (5, 6)

$m = \frac{6-2}{5-3} = \frac{4}{2} = 2$

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

$y = 2x - 6 + 2$

$y = 2x - 4$

$\boxed{2x - y = 4}$

14. (6, 2) & (8, 8)

$m = \frac{8-2}{8-6} = \frac{6}{2} = 3$

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

$y = 3x - 9 + 8$

$y = 3x - 1$

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

15. (- 4, 0) & (6, - 1)

$m = \frac{-1+0}{6+4} = \frac{-1}{10}$

$y - 0 = -\frac{1}{10}(x+4)$

$y = -\frac{1}{10}x - \frac{4}{10}$

$10y = -x - 4$

$\boxed{x + 10y = -4}$

Write an equation of each line.

16. vertical through (0, 2)

$x = 0$

17. horizontal through (1, 4)

$y = 4$

18. parallel to y = 5, through (1, 2)

$y = 2$

19. perpendicular to x = - 3 through (- 2, 5)

$y = 5$

20. parallel to x = 0, through (- 5, 0)

$x = -5$

21. perpendicular to y = - 4 through (0, - 3)

$x = 0$

CYU Reflection: *How far can you go: basic, intermediate, or advanced?*

Rate your mastery level!

How confident are you with the skills this CYU covered? Circle the score you would give yourself.

1	2	3	4	5	6	7	8
Basic		Intermediate			Advanced		Solved ALL!