

**Lesson 3.6**

## Homework Answers

Pg 161 - #1-33 odd, 37, 41-45, 47, 48

<p>1. Yes; both slopes = <math>-\frac{1}{2}</math>.</p> <p>3. No; the slope of <math>l_1 = \frac{3}{2}</math> &amp; slope of <math>l_2 = 2</math></p> <p>5. Yes; both slopes are 0.</p> <p>7. Yes; the lines both have a slope of <math>\frac{3}{4}</math> but different y-intercepts.</p> <p>9. No; one slope = 7 &amp; the other slope = -7.</p> <p>11. Yes; the lines both have a slope of <math>-\frac{2}{5}</math> but different y-intercepts.</p> <p>13. <math>y - 0 = \frac{1}{3}(x - 6)</math> or <math>y = \frac{1}{3}(x - 6)</math></p> <p>15. <math>y + 2 = -\frac{3}{2}(x - 6)</math></p> <p>17. Yes; the slope of <math>l_1 = -\frac{3}{2}</math>, and the slope of <math>l_2 = \frac{2}{3}</math>; <math>-\frac{3}{2} \cdot \frac{2}{3} = -1</math></p> <p>19. Yes; the slope of <math>l_1 = -1</math>, and the slope of <math>l_2 = 1</math>; <math>-1 \cdot 1 = -1</math></p> <p>21. <math>y = -2(x - 4)</math></p> <p>23. <math>y = \frac{4}{5}x</math></p> <p>25. No; <math>\frac{1}{2} \cdot 2 \neq -1</math></p> <p>27. Yes; one is vertical &amp; the other is horiz.</p> <p>29. Yes; <math>-\frac{2}{3} \cdot \frac{3}{2} = -1</math></p> <p>31. slope of <math>\overline{AB} = \text{slope of } \overline{CD} = \frac{2}{3}</math>; <math>\overline{AB} \parallel \overline{CD}</math> slope of <math>\overline{BC} = \text{slope of } \overline{AD} = -3</math>; <math>\overline{BC} \parallel \overline{AD}</math></p>	<p>33. slope of <math>\overline{AB} = \frac{1}{2}</math>; slope of <math>\overline{CD} = \frac{1}{4}</math>; <math>\overline{AB} \nparallel \overline{CD}</math> slope of <math>\overline{BC} = -1</math>; slope of <math>\overline{AD} = -\frac{1}{2}</math>; <math>\overline{BC} \nparallel \overline{AD}</math></p> <p>37. <math>\overline{RS}</math> &amp; <math>\overline{VU}</math> are horiz w/slope=0; <math>\overline{RS} \parallel \overline{VU}</math> Slope <math>\overline{RW} = \text{slope } \overline{UT} = 1</math>; <math>\overline{RW} \parallel \overline{UT}</math> Slope <math>\overline{WV} = \text{slope } \overline{ST} = -1</math>; <math>\overline{WV} \parallel \overline{ST}</math></p> <p>41. a) <math>y + 20 = \frac{3}{4}(x - 35)</math> b) Because you are given a point &amp; can quickly find the slope.</p> <p>42. <math>\parallel</math></p> <p>43. <math>\perp</math></p> <p>44. neither</p> <p>45. <math>\perp</math></p> <p>47. <math>\overline{AC} : d = \sqrt{(7-9)^2 + (11-1)^2} = \sqrt{104}</math> <math>\overline{BD} : d = \sqrt{(13-3)^2 + (7-5)^2} = \sqrt{104}</math> <math>\overline{AC} \cong \overline{BD}</math></p> <p>48. slope of <math>\overline{AC} = -5</math>; slope of <math>\overline{BD} = \frac{1}{5}</math>; Since <math>-5 \cdot \frac{1}{5} = -1</math>, <math>\overline{AC} \perp \overline{BD}</math>; midpt <math>\overline{AC} = (8, 6)</math>; midpt <math>\overline{BD} = (8, 6)</math>; Since the midpoints are the same, the diagonals bisect each other.</p> <p>51. B</p> <p>52. I</p> <p>53. C</p> <p>54. a) slope of line <math>c: \frac{1 - (-2)}{-4 - 2} = \frac{3}{-6} = -\frac{1}{2}</math> Slope of line perpendicular to <math>c: 2</math> b) 0</p>
---	--