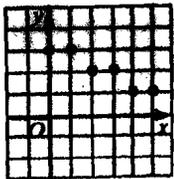
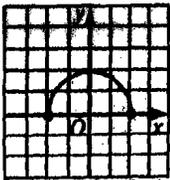
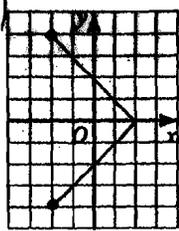
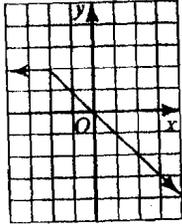


**\*\*Do these problems on the same paper as your textbook assignments.\*\***

Textbook Section(s)	<b>EXTRA PROBLEMS</b> (use exact values—no rounding decimals—in answers)
2.1	<p>Specify the domain and range for each relation. Then tell whether or not it is a function.</p> <div style="display: flex; justify-content: space-around; align-items: flex-start;"> <div style="text-align: center;"> <p>1. </p></div> <div style="text-align: center;"> <p>2. </p></div> <div style="text-align: center;"> <p>3. </p> </div> </div> <p>Specify the domain for each relation:</p> <p>4. <math>\{(x, y): y^2 = x\}</math>                      5. <math>\{(x, y): xy = 1\}</math></p> <p>6. If <math>f(x) = 1 - x^2</math>, find <math>f(3a+2)</math></p> <p>7. If <math>f(x) = mx + b</math>, and <math>k</math> is any nonzero number, find <math>\frac{f(x+k) - f(x)}{k}</math>.</p> <p>(review)</p> <p>Solve for <math>x</math>. Graph the solution.</p> <p>8. <math> 18 + 5x  + 2 = 4</math>                      9. <math>2 \left  \frac{3x-4}{5} \right  - 15 &gt; 39</math>                      10. <math>1 \leq  2x-1  \leq 9</math></p>
2.2 & 2.3	<p>11. Graph <math>\frac{x+1}{2} + \frac{y-1}{3} = 1</math> using x- and y-intercepts.</p> <p>12. Find the value of <math>k</math> so that <math>P(2, -3)</math> lies on the line <math>kx + 3y = k + 1</math>.</p> <p>13. Find <math>k</math> so that the line <math>kx + 2y = 6</math> has slope <math>m = k + 1</math>.</p> <p>14. Find <math>k</math> so that the line through <math>(k, 3k)</math> and <math>(k+2, k+4)</math> has slope <math>m = k</math>.</p> <p>(review)</p> <p>15. Specify domain and range. Is it a function?</p> <div style="display: flex; justify-content: space-around; align-items: flex-start;"> <div style="text-align: center;">  </div> <div style="text-align: center;"> <p>16. If <math>x</math> and <math>y</math> are integers, specify the range for <math>\{(x, y) \mid  y  = x \text{ and } x \leq 3\}</math>.</p> <p>17. If <math>g(x) = 1 - 2x</math>, find <math>g\left(\frac{1}{a^2 + 1}\right)</math>. Express answer as a fraction in simplest form.</p> </div> </div>

2.4	<p>18. Write the equation of a line, in standard form, that contains <math>\left(\frac{1}{2}, \frac{2}{3}\right)</math> and <math>\left(1, \frac{1}{6}\right)</math>.</p> <p>19. Write the equation of a line, in standard form, that passes through <math>(3, 0)</math> and the point of intersection for the lines <math>3x + 4y = 7</math> and <math>x + 3y = 4</math>.</p> <p>20. If <math>s</math> varies directly as <math>2n - 1</math>, and <math>s = 9</math> when <math>n = 2</math>, find <math>n</math> when <math>s = 15</math>.</p>
2.6	<p>Graph in the coordinate plane:</p> <p>21. <math>1 \leq x \leq 4</math>      22. <math> y - 3  &lt; 2</math></p> <p>(review)</p> <p>23. Write the equation of a line, in slope-intercept form, that is the perpendicular bisector of the segment with endpoints <math>(-2, 4)</math> and <math>(-6, 2)</math>.</p>
2.7	<p>(review)</p> <p>Graph in the coordinate plane:</p> <p>24. <math>5x \leq 12 - 2y</math>      25. <math> x + 5  &gt; 9</math></p>
2.8	<p>(review)</p> <p>Graph in the coordinate plane:</p> <p>26. <math>x =  y  + 1</math>      27. <math>y &gt;  x - 2 </math></p>