








| Question | Answer | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|----------|--|-----|----|----|----|----|----|------|---|---|------|----|----|-----|---|---|----|----|----|----------|----|----|----|---|---|---|---|---|----------|----|----|----|----|----|----|----|----|
| 1 | <p>a) Yes $3 + 3 + 4 = 10$</p> <p>b)  = 2</p> <p>c) multiple possible answers, e.g.  = 1  = 8  = 2  = 6  = 2.5  = 5</p> | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2 | <table><tr><td>a</td><td>0</td><td>1</td><td>2</td><td>3</td><td>4</td><td>5</td><td>6</td><td>7</td></tr><tr><td>$2a$</td><td>0</td><td>2</td><td>4</td><td>6</td><td>8</td><td>10</td><td>12</td><td>14</td></tr><tr><td>b</td><td>14</td><td>12</td><td>10</td><td>8</td><td>6</td><td>4</td><td>2</td><td>0</td></tr><tr><td>$2a + b$</td><td>14</td><td>14</td><td>14</td><td>14</td><td>14</td><td>14</td><td>14</td><td>14</td></tr></table> | a | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | $2a$ | 0 | 2 | 4 | 6 | 8 | 10 | 12 | 14 | b | 14 | 12 | 10 | 8 | 6 | 4 | 2 | 0 | $2a + b$ | 14 | 14 | 14 | 14 | 14 | 14 | 14 | 14 |
| a | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| $2a$ | 0 | 2 | 4 | 6 | 8 | 10 | 12 | 14 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| b | 14 | 12 | 10 | 8 | 6 | 4 | 2 | 0 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| $2a + b$ | 14 | 14 | 14 | 14 | 14 | 14 | 14 | 14 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 3 | <p>a)</p> <table><tr><td>c</td><td>1</td><td>2</td><td>3</td><td>4</td><td>5</td></tr><tr><td>$3c$</td><td>3</td><td>6</td><td>9</td><td>12</td><td>15</td></tr><tr><td>d</td><td>1</td><td>4</td><td>7</td><td>10</td><td>13</td></tr><tr><td>$3c - d$</td><td>2</td><td>2</td><td>2</td><td>2</td><td>2</td></tr></table> <p>b) If c was 6, then d would be greater than 15</p> | c | 1 | 2 | 3 | 4 | 5 | $3c$ | 3 | 6 | 9 | 12 | 15 | d | 1 | 4 | 7 | 10 | 13 | $3c - d$ | 2 | 2 | 2 | 2 | 2 | | | | | | | | | | | | |
| c | 1 | 2 | 3 | 4 | 5 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| $3c$ | 3 | 6 | 9 | 12 | 15 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| d | 1 | 4 | 7 | 10 | 13 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| $3c - d$ | 2 | 2 | 2 | 2 | 2 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 4 | <div><div>$x = 20, y = 20$</div><div>$x = 10, y = 20$</div><div>$x = 20, y = 10$</div><div>$x = 35, y = 70$</div><div>$y = 90, x = 45$</div></div> | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

| Question | Answer |
|----------|---|
| 5 | <p>a) $2x + 2y = 28$</p> <p>b) $x = 1, y = 13$ $x = 2, y = 12$ $x = 3, y = 11$ $x = 4, y = 10$ $x = 5, y = 9$ $x = 6, y = 8$ $x = 7, y = 7$ $x = 8, y = 6$ $x = 9, y = 5$ $x = 10, y = 4$ $x = 11, y = 3$ $x = 12, y = 2$ $x = 13, y = 1$</p> <p>Work systematically from $x = 1$, increasing x by 1 each time.</p> |
| 6 | <p>10 pencils, 0 pens</p> <p>7 pencils, 2 pens</p> <p>4 pencils, 4 pens</p> <p>1 pencil, 6 pens</p> |
| 7 | <p>1 7 7 9</p> <p>1 5 9 9</p> |
| 8 | <p>a) multiple possible answers, e.g. $a = 3, b = 8$</p> <p>b) There are eight possible answers with integer values for a and b: $a = 1, b = 24$ $a = 2, b = 12$ $a = 3, b = 8$ $a = 4, b = 6$ $a = 6, b = 4$ $a = 8, b = 3$ $a = 12, b = 2$ $a = 24, b = 1$</p> |