

**Introduction to Arithmetic Sequences**  
Unit 6: Representations of Linear Relations

Determine if the sequence is arithmetic. If it is, find the common difference.

<p>1. <math>-15, 85, 185, 285, \dots</math></p> $85 - (-15) = 100$ $185 - (85) = 100$ $285 - (185) = 100$ <p style="text-align: center;">Arithmetic <math>d = 100</math></p>	<p>2. <math>27, 30, 33, 36, \dots</math></p> $30 - (27) = 3$ $33 - (30) = 3$ $36 - (33) = 3$ <p style="text-align: center;">Arithmetic <math>d = 3</math></p>
<p>3. <math>2, 4, 12, 48, \dots</math></p> $4 - (2) = 2$ $12 - (4) = 8$ $48 - (12) = 36$ <p style="text-align: center;">Not Arithmetic</p>	<p>4. <math>-28, -31, -34, -37, \dots</math></p> $-31 - (-28) = -3$ $-34 - (-31) = -3$ $-37 - (-34) = -3$ <p style="text-align: center;">Arithmetic <math>d = -3</math></p>
<p>5. <math>37, 44, 51, 58, \dots</math></p> $44 - (37) = 7$ $51 - (44) = 7$ $58 - (51) = 7$ <p style="text-align: center;">Arithmetic <math>d = 7</math></p>	<p>6. <math>6, 106, 206, 306, \dots</math></p> $106 - (6) = 100$ $206 - (106) = 100$ $306 - (206) = 100$ <p style="text-align: center;">Arithmetic <math>d = 100</math></p>
<p>7. <math>30, 37, 44, 51, \dots</math></p> $37 - (30) = 7$ $44 - (37) = 7$ $51 - (44) = 7$ <p style="text-align: center;">Arithmetic <math>d = 7</math></p>	<p>8. <math>-4, -7, -10, -13, \dots</math></p> $-7 - (-4) = -3$ $-10 - (-7) = -3$ $-13 - (-10) = -3$ <p style="text-align: center;">Arithmetic <math>d = -3</math></p>
<p>9. <math>-2, -4, -12, -48, \dots</math></p> $-4 - (-2) = -2$ $-12 - (-4) = -8$ $-48 - (-12) = -36$ <p style="text-align: center;">Not Arithmetic</p>	<p>10. <math>-22, -31, -40, -49, \dots</math></p> $-31 - (-22) = -9$ $-40 - (-31) = -9$ $-49 - (-40) = -9$ <p style="text-align: center;">Arithmetic <math>d = -9</math></p>

<p>11. 18, -182, -382, -582, ...</p> $-182 - (18) = -200$ $-382 - (-182) = -200$ $-582 - (-382) = -200$ <p>Arithmetic <math>d = -200</math></p>	<p>12. -24, -26, -28, -30, ...</p> $-26 - (-24) = -2$ $-28 - (-26) = -2$ $-30 - (-28) = -2$ <p>Arithmetic <math>d = -2</math></p>
<p>13. 2, 26, 266, 2666, ...</p> $26 - (2) = 24$ $266 - (26) = 240$ $2666 - (266) = 2400$ <p>Not Arithmetic</p>	<p>14. 15, 24, 33, 42, ...</p> $24 - (15) = 9$ $33 - (24) = 9$ $42 - (33) = 9$ <p>Arithmetic <math>d = 9</math></p>
<p>15. -37, -42, -47, -52, ...</p> $-42 - (-37) = -5$ $-47 - (-42) = -5$ $-52 - (-47) = -5$ <p>Arithmetic <math>d = -5</math></p>	<p>16. -31, -37, -43, -49, ...</p> $-37 - (-31) = -6$ $-43 - (-37) = -6$ $-49 - (-43) = -6$ <p>Arithmetic <math>d = -6</math></p>
<p>17. -13, -20, -27, -34, ...</p> $-20 - (-13) = -7$ $-27 - (-20) = -7$ $-34 - (-27) = -7$ <p>Arithmetic <math>d = -7</math></p>	<p>18. 23, 20, 17, 14, ...</p> $20 - (23) = -3$ $17 - (20) = -3$ $14 - (17) = -3$ <p>Arithmetic <math>d = -3</math></p>
<p>19. -25, 5, 35, 65, ...</p> $5 - (-25) = 30$ $35 - (5) = 30$ $65 - (35) = 30$ <p>Arithmetic <math>d = 30</math></p>	<p>20. -38, -48, -58, -68, ...</p> $-48 - (-38) = -10$ $-58 - (-48) = -10$ $-68 - (-58) = -10$ <p>Arithmetic <math>d = -10</math></p>