

1. An arithmetic sequence is given using the recursive definition: $b_1 = 8$ and $b_i = b_{i-1} - 2$. Which of the following is the value of b_4 ? Show the work that leads to your answer.

- (1) 14 (2) 2 (3) 6 (4) 4

2. For each of the following sequences, determine if it is arithmetic based on the information given. If it is arithmetic, fill in the missing blank. If it is not, show why.

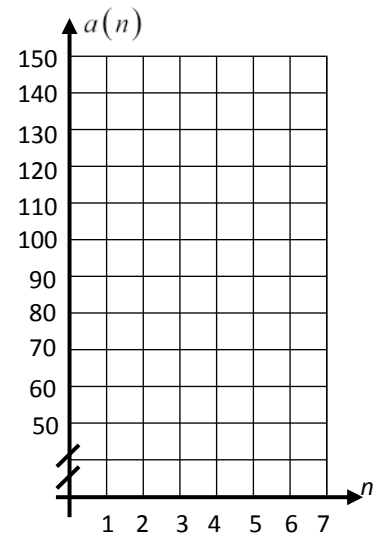
(a) 12, 24, 36, _____, 60, 72

(b) 10000, 1000, _____, 10, 1

(c) _____, 24, 20, 16, 12, 8

(d) $\frac{1}{4}$, $\frac{1}{2}$, _____, 1, $\frac{5}{4}$

3. Given a sequence defined by the explicit formula $g(n) = 15n + 35$, write out the first four terms. Then, create a recursive definition and graph the sequence on the interval $1 \leq n \leq 7$.



4. Which of the following is an arithmetic sequence?

(1) 2, 4, 8, 16, 32, 64

(3) 1, 1, 2, 3, 5, 8, 13

(2) 50, 45, 40, 35, 30

(4) $1, \frac{1}{2}, \frac{1}{4}, \frac{1}{8}, \frac{1}{16}$

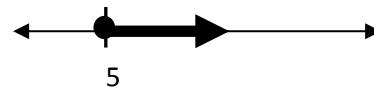
R1. Solve the compound inequality for x and graph the solution on a number line: $x + 6 < 8$ and $x - 1 > -1$

R2. Which property of real numbers is illustrated by the equation $4 + (5 + 6) = (4 + 5) + 6$?

- 1) Commutative 2) Distributive 3) Associative 4) Transitive

R3. Solve for x in terms of b : $3x - b = 2b$

R4. What set of interval notation is represented by the graph?



- 1) $(-\infty, 5)$ 2) $(5, \infty)$
3) $[5, \infty)$ 4) $(-\infty, 5]$

R5. What is the value of y in the equation $2(3y - 4) = 10$?

R6. Subtract $6x^2 + 3x - 5$ from the sum of $x^2 + 2x - 8$ and $3x^2 + 5x - 1$

R7. Evaluate $2xy + z^2$ if $x = 0.1$, $y = 0.2$, and $z = 0.4$

R8. Evaluate $3p^2 - 4y$ if $p = 2$ and $y = -3$

1. (2)

2. (a) 48

(b) Not Arithmetic. Divided by 10

(c) 28

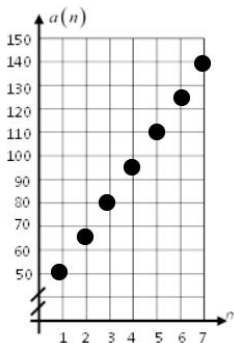
(d) $\frac{3}{4}$

3. $g(1) = 50$

$g(2) = 65$

$g(3) = 80$

$g(4) = 95$



4. (2)

R1. $x < 2$ and $x > 0$



R2. 2

R3. $x = b$

R4. 3

R5. $y = 3$

R6. $-2x^2 + 4x - 4$

R7. 0.2

R8. 24