

C11 - 1.1 - Arithmetic Sequence missing terms WS

Find missing terms of the sequence.

$2, 4, 6, \underline{\quad}, \underline{\quad}, \underline{\quad}$

$8, 14, 20, \underline{\quad}, \underline{\quad}, \underline{\quad}$

$11, 6, 1, \underline{\quad}, \underline{\quad}, \underline{\quad}$

$2, -4, -10, \underline{\quad}, \underline{\quad}, \underline{\quad}$

$-8, -5, -2, \underline{\quad}, \underline{\quad}, \underline{\quad}$

$\frac{1}{2}, \frac{3}{2}, \frac{5}{2}, \underline{\quad}, \underline{\quad}, \underline{\quad}$

$0.33, 0.34, 0.35, \underline{\quad}, \underline{\quad}, \underline{\quad}$

$\frac{1}{2}, \frac{1}{4}, 0, \underline{\quad}, \underline{\quad}, \underline{\quad}$

$x, x + 1, x + 2, \underline{\quad}, \underline{\quad}, \underline{\quad}$

$\underline{\quad}, \underline{\quad}, \underline{\quad}, 8, 10, 12$

$5, \underline{\quad}, \underline{\quad}, 20, 25,$

$2, \underline{\quad}, \underline{\quad}, 8, 10,$

$2, \underline{\quad}, \underline{\quad}, -4, -6,$

$5, \underline{\quad}, 17, \underline{\quad}, \underline{\quad},$

$2, \underline{\quad}, -8, \underline{\quad}, \underline{\quad},$

$4, \underline{\quad}, -2, \underline{\quad}, \underline{\quad},$

$-7, \underline{\quad}, 3, \underline{\quad}, \underline{\quad},$

$7, \underline{\quad}, \underline{\quad}, -32, \underline{\quad},$

$4, \underline{\quad}, \underline{\quad}, 25, \underline{\quad},$

$13, \underline{\quad}, \underline{\quad}, \underline{\quad}, 81$

Solve for x , and missing terms

$x + 1, 3x - 1, 2x + 3, \underline{\quad}, \underline{\quad},$
 $3, 5, 7, x = 2$

$2x + 2, \underline{\quad}, 7x - 5, 5x + 5,$
 $8, 12, 16, 20 \quad x = 3$

$x^2 - 12, x^2 - 2x + 2, 2x^2 - 3x - 4, \underline{\quad},$
 $13, 17, 31 \quad x = -5$
 $4, 10, 16 \quad x = 4$

C11 - 1.1 - Arithmetic first term, difference HW

Circle the first term, write $t_1 =$, *and* find the common difference, twice.

$$\textcircled{1} 3, 5, 7, \dots$$

$$t_1 = 1$$

$$d = 3 - 1 = \textcircled{2}$$

$$d = 5 - 3 = \textcircled{2}$$

$$3, 7, 11, 15, \dots$$

$$t_1 =$$

$$d =$$

$$d =$$

$$8, 14, 20, 26, 32$$

$$10, 8, 6, \dots$$

$$3, -1, -5, \dots$$

$$5, 2.5, 0, \dots$$

$$12, 17, 22, 27, 32$$

$$-10, -12, -14, -16, -18$$

$$14, 19, 24, 29, 34$$

$$-\frac{1}{2}, -\frac{3}{2}, -\frac{5}{2}, \dots$$

$$\frac{9}{2}, \frac{7}{2}, \frac{5}{2}, \dots$$

$$27, 13, -1, \dots$$

$$2, 3, 4, 5, 6$$

$$-3, -5, -7, -9, -11$$

$$5, 11, 17, 23, 29$$

$$9, 12, 15, 18, 21$$

$$16, 21, 26, 31, 36$$

$$0.3, 0.31, 0.32, 0.33, \dots$$

C11 - 1.1 - Arithmetic Means HW

Write the first 5 terms of the sequence

$$t_1 = 2, d = 3$$

$$t_1 = 4, d = -3$$

$$t_1 = -4, d = 5$$

$$t_1 = -7, t_3 = 3$$

$$t_1 = 5, t_3 = 15$$

$$t_1 = 2, t_4 = -4$$

$$t_1 = 7, t_4 = -32$$

$$t_1 = 13, t_5 = 81$$

$$t_1 = 2x - 8, t_3 = 3x - 2$$

$$6, 13, 19, x = 7$$

C11 - 1.1 - Arithmetic Means HW

Find t_1 and d

$$t_2 = 2, t_3 = 4$$

$$t_2 = 15, t_3 = 20$$

$$t_2 = 2, t_4 = -8$$

$$t_2 = 8, t_4 = -32$$

$$t_2 = 2, t_5 = -13$$

$$t_2 = 3, t_6 = 23$$

$$t_3 = 4, t_{10} = 39$$

$$t_3 = 3, t_{12} = -1527$$

C11 - 1.1 - Arithmetic Sequences WS

$$\begin{array}{ccccccc} & + & & + & & & \\ & \curvearrowright & & \curvearrowright & & & \\ \frac{3}{t_1} & , & \frac{5}{t_2} & , & \frac{7}{t_3} & , & \frac{?}{t_4} & , & \frac{?}{t_5} & \dots & \frac{?}{t_n} \\ n=1 & & n=2 & & n=3 & & & & & & n=n \end{array}$$

$$t_1 =$$

$$d = t_n - t_{n-1}$$

$$d =$$

$$d =$$

$$d = t_n - t_{n-1}$$

Arithmetic: d must always be the _____

1. Find the General term $t_n = ?$

$$t_n = t_1 + (n - 1)d$$

The first term plus 'n - 1' differences

What is the tenth term t_{10} ?

Or, Start from beginning

$$t_n =$$

General term formula

Remember: You could have also added the common difference 7 times to Term 3 (t_3)

Check your answer: 3,5,7,

31 is what term, $t_n = 31, n = ?$

$$t_n =$$

Check your answer: 3,5,7,

C11 - 1.1 - Arithmetic General Term, nth terms HW

Find the General term.

Find the 18th term. $t_{18} = ?$

Find out what term 63 is. $t_n = 63$.

3, 7, 11, 15, ...

$$t_1 = \quad d =$$

$$d =$$

$$t_n = t_1 + (n - 1)d$$

Find the General term.

Find the 12th term. $t_{12} = ?$

Find out what term 49 is. $t_n = 49$.

4, 9, 14, ...

Find the General term.

Find the 20th term. $t_{20} = ?$

Find out what term 64 is. $t_n = 64$.

7, 10, 13, ...

C11 - 1.2 - Arithmetic Series Sum terms WS

Find the sum of the first sixth terms of the sequence.

$$2, + 4, + 6, + \underline{\quad}, + \underline{\quad}, + \underline{\quad} =$$

$$3, + 7, + 11, + \underline{\quad}, + \underline{\quad}, + \underline{\quad} =$$

$$8, \quad 14, \quad 20, \quad \underline{\quad}, \quad \underline{\quad}, \quad \underline{\quad} =$$

$$7, \quad 10, \quad 13, \quad \underline{\quad}, \quad \underline{\quad}, \quad \underline{\quad}$$

$$11, \quad 14, \quad 17, \quad \underline{\quad}, \quad \underline{\quad}, \quad \underline{\quad}$$

$$6, \quad 8, \quad 10, \quad \underline{\quad}, \quad \underline{\quad}, \quad \underline{\quad}$$

$$2, \quad 6, \quad 10, \quad \underline{\quad}, \quad \underline{\quad}, \quad \underline{\quad}$$

$$3, \quad 10, \quad 17, \quad \underline{\quad}, \quad \underline{\quad}, \quad \underline{\quad}$$

$$8, \quad 13, \quad 18, \quad \underline{\quad}, \quad \underline{\quad}, \quad \underline{\quad}$$

$$7, \quad 14, \quad 21, \quad \underline{\quad}, \quad \underline{\quad}, \quad \underline{\quad}$$

$$11, \quad 17, \quad 23, \quad \underline{\quad}, \quad \underline{\quad}, \quad \underline{\quad}$$

$$8, \quad 7, \quad 6, \quad \underline{\quad}, \quad \underline{\quad}, \quad \underline{\quad}$$

$$7, \quad 2, \quad -3, \quad \underline{\quad}, \quad \underline{\quad}, \quad \underline{\quad}$$

$$11, \quad 8, \quad 5, \quad \underline{\quad}, \quad \underline{\quad}, \quad \underline{\quad}$$

$$6, \quad 5, \quad 4, \quad \underline{\quad}, \quad \underline{\quad}, \quad \underline{\quad}$$

C11 - 1.2 - Arithmetic Series WS

$$\frac{3}{n=1}, \frac{5}{n=2}, \frac{7}{n=3}, \frac{?}{n=4}, \frac{?}{n=5}, \dots, \frac{?}{n=n}$$

$$t_1 =$$

$$d = t_n - t_{n-1} \quad d = t_n - t_{n-1} \quad \boxed{d = t_n - t_{n-1}}$$

$$d = \quad d =$$

4. What is the sum of the first twelve terms s_{12} ? $s_{12} = ?$, $n = 12$.

$$s_n = \frac{n}{2}(t_1 + t_n)$$

$$t_n =$$

$$\boxed{s_n = \frac{n}{2}(t_1 + t_n)}$$

Sum of "n" terms formula: if t_n is known.

Check your answer: $3 + 5 + 7 +$

OR

$$s_n = \frac{n}{2}(2t_1 + (n-1)d)$$

$$\boxed{s_n = \frac{n}{2}(2t_1 + (n-1)d)}$$

Sum of "n" terms formula: if t_n is not known.

C11 - 1.2 - Arithmetic Series Sum nth terms HW

Find the sum of the first 12 terms. $s_{12} = ?$, $n = 12$

3, 7, 11, 15, ...

8, 14, 20, 26, 32

6, 13, 20, 27, 34

Find the sum of the first 18 terms

10, 8, 6, ...

3, -1, -5, ...

5, 2.5, 0, ...

Find the sum of the first 100 terms.

7, 10, 13, ...

5, 11, 17, 23, 29

14, 38, 62, 86, ...

Find the sum of the first 251 terms.

$\frac{1}{2}, \frac{3}{2}, \frac{5}{2}, \dots$

$\frac{9}{2}, \frac{7}{2}, \frac{5}{2}, \dots$

27, 13, -1, ...

C11 - 1.2 - Find 'n' Arithmetic Series HW

Find "n" the number of terms

15, 16, 17, 18, 19 100 $\rightarrow t_n$

$$t_n = t_1 + (n - 1)d$$

4, 8, 12, 16, 20 444

13, 15, 17, 19, 273

3, 5, 7, 9, 11 139

9, 12, 15, 18, 21 3342

2, -2, -6, -410

8, -6, -20, -160

-25, -42, -59, -569

C11 - 1.2 - Finding Sum, t_1 , d , Arithmetic Series HW

Find n and the sum.

$$12 + 18 + 24 + \dots + 72$$

$$t_n = t_1 + (n - 1)d \quad s_n = \frac{n}{2}(t_1 + t_n)$$

$$8 + (-2) + (-12) + \dots + (-102)$$

$$10, 12, 14, \dots \dots 88$$

$$14, 19, 24, 29, 34 \dots \dots 99$$

$$4, 8, 12, 16, \dots \dots 400$$

$$3, 5, 7, 9, \dots \dots 371$$

$$16, 21, 26, 31, \dots \dots 1001$$

C11 - 1.3 - Geometric Sequence Means WS

Find the missing terms of the sequence.

$2, 4, 8, \underline{\quad}, \underline{\quad}, \underline{\quad}$

$1, 2, 4, \underline{\quad}, \underline{\quad}, \underline{\quad}$

$5, 20, 80, \underline{\quad}, \underline{\quad}, \underline{\quad}$

$-4, 2, -1, \underline{\quad}, \underline{\quad}, \underline{\quad}$

$9, 3, 1, \underline{\quad}, \underline{\quad}, \underline{\quad}$

$10, 100, 1000, \underline{\quad}, \underline{\quad}, \underline{\quad}$

$4, 6, 9, \underline{\quad}, \underline{\quad}, \underline{\quad}$

$-4, -2, -1, \underline{\quad}, \underline{\quad}, \underline{\quad}$

$.5, .25, .125, \underline{\quad}, \underline{\quad}, \underline{\quad}$

$\frac{2}{7}, \frac{12}{35}, \frac{72}{175}, \underline{\quad}, \underline{\quad}, \underline{\quad}$

$6, -1, \frac{1}{6}, \underline{\quad}, \underline{\quad}, \underline{\quad}$

$\frac{1}{3}, \frac{2}{9}, \frac{4}{27}, \underline{\quad}, \underline{\quad}, \underline{\quad}$

$\frac{1}{2}, \frac{3}{2}, \frac{9}{2}, \underline{\quad}, \underline{\quad}, \underline{\quad}$

$x, x^2, x^3, \underline{\quad}, \underline{\quad}, \underline{\quad}$

$\underline{\quad}, \underline{\quad}, \underline{\quad}, 27, 81, 243,$

$\underline{\quad}, \underline{\quad}, \underline{\quad}, 625, 3125$

$\underline{\quad}, \underline{\quad}, \underline{\quad}, -1, \frac{1}{5}, -\frac{1}{25},$

$4, \underline{\quad}, \frac{1}{16}, \underline{\quad}, \underline{\quad},$

$5, \underline{\quad}, \underline{\quad}, \underline{\quad},$

$2, \underline{\quad}, 32, \underline{\quad}, \underline{\quad},$

$5, \underline{\quad}, \underline{\quad}, 40, 80, 160,$

$2, \underline{\quad}, \underline{\quad}, 16, \underline{\quad}, \underline{\quad},$

$1, \underline{\quad}, \underline{\quad}, -\frac{1}{8}, \frac{1}{16}, -\frac{1}{32},$

$x + 1, \underline{\quad}, \underline{\quad}, (x + 1)^4, \underline{\quad},$

$3, \underline{\quad}, \underline{\quad}, \underline{\quad}, 243$

Solve for x , and missing terms

$x - 2, 2x + 2, 8x + 8, \underline{\quad},$

$3, 12, 48 \quad x = 5$

C11 - 1.3 - Geometric Means HW

Write the first 5 terms of the sequence

$$t_1 = 2, r = 3$$

$$t_1 = 4, r = -3$$

$$t_1 = -4, r = \frac{1}{2}$$

$$t_1 = 4, t_3 = 16$$

$$t_1 = 5, t_3 = 20$$

$$t_1 = 2, t_4 = -54$$

$$t_1 = 1, t_4 = \frac{1}{8}$$

$$t_1 = 3, t_5 = 243$$

$$t_1 = x - 1, t_3 = 4x - 4$$

C11 - 1.3 - Geometric Means HW

Find t_1 and r

$$t_2 = 2, t_3 = 4$$

$$t_2 = 10, t_3 = 20$$

$$t_2 = 2, t_4 = 96$$

$$t_2 = 8, t_4 = 32$$

$$t_2 = 2, t_5 = -16$$

$$t_2 = 2, t_6 = 32$$

$$t_3 = 4, t_{10} = 512$$

$$t_3 = -3, t_{12} = -59049$$

C11 - 1.3 - Geometric Sequence *find* t_1, r WS

Find the first term t_1 , and the common ratio twice.

2, 4, 8, ...

$$t_1 = 2$$

$$r = \frac{4}{2} = 2$$

$$r = \frac{8}{4} = 2$$

3, 9, 27, ...

$$t_1 =$$

$$r =$$

$$r =$$

5, 25, 125, ...

8, -4, 2, ...

-6, -36, -216

5, 10, 20, ...

$2, \frac{1}{2}, \frac{1}{8}, \dots$

$-27, -3, -\frac{1}{3}, \dots$

$27, 3, \frac{1}{3}, \dots$

1, -1, 1, ...

-10, 100, -1000, ...

0.3, 0.03, 0.003, ...

C11 - 1.3 - Geometric General Term, nth term WS

Find the General Term

2, 4, 8, ...

$$t_1 = \quad r =$$

$$r =$$

$$t_n = t_1 r^{n-1}$$

Find the 12th term. $t_{12} = ?$

Find out what term 128 is. $t_n = 128$.

Find the General Term

2, 6, 18, ..

Find the 6th term. $t_6 = ?$

Find out what term 162 is. $t_n = 162$.

Find the General Term

8, $-2, \frac{1}{2}, \dots$

Find the 8th term. $t_8 = ?$

Find out what term $\frac{1}{128}$ is. $t_n = -\frac{1}{128}$.

Find the General Term

0.3, 0.03, 0.003, ...

Find the 5th term. $t_5 = ?$

Find out what term 0.0000003 is.

C11 - 1.3 - Geometric Sequences WS

$$\begin{array}{ccccccc} \times 3 & \times 3 & & & & & \\ \curvearrowright & \curvearrowright & & & & & \\ \frac{2}{t_1} & , & \frac{6}{t_2} & , & \frac{18}{t_3} & , \dots & \frac{?}{t_6} & , \dots & \frac{?}{t_n} \\ n=1 & & n=2 & & n=3 & & & & n=n \end{array}$$

$t_1 = \text{first term}$
 $r = \text{common ratio}$
 $t_n = \text{term } n$
 $n = \text{number of terms}$

$$t_1 = 2$$

$$r = \frac{t_n}{t_{n-1}}$$

$$r =$$

$$r = \frac{t_n}{t_{n-1}}$$

$$r =$$

$$r = \frac{t_n}{t_{n-1}}$$

A term divided by the term before it

Geometric: r must always be the same

Find the General term $t_n = ?$

$$t_n = t_1 r^{n-1}$$

$$t_n = t_1 r^{n-1}$$

General term formula

What is the fifth term t_5 ? $t_5 = ?$, $n = 5$.

$$t_n =$$

Check your answer: 2,6,18,
 Remember: You could have also multiplied the common ratio 2 times to t_3

3. The number 1458 is what term? $t_n = 1458$, $n = ?$

$$t_n = t_1 r^{n-1}$$

C11 - 1.3 - Geometric find 'n' WS

Find "n" the number of terms

$$2, 4, 8, \dots, 256 \longrightarrow t_n$$

$$t_n = t_1 r^{n-1}$$

$$3, 9, 27, \dots, 729$$

$$4, 8, 16, \dots, 2048$$

$$8, -4, 2, \dots, \frac{1}{256}$$

$$-6, -36, -216, \dots, -46656$$

$$5, 10, 20, \dots, 160$$

$$2, \frac{1}{2}, \frac{1}{8}, \dots, \frac{1}{512}$$

$$9, -3, 1, \dots, \frac{1}{81}$$

$$27, 3, \frac{1}{3}, \dots, \frac{1}{2187}$$

$$1, 2, 4, \dots, 65536$$

$$10, 100, 1000, \dots, 1000000$$

$$0.3, 0.03, 0.003, \dots, 0.0000000003$$

C11 - 1.4 - Geometric Sequence sum terms WS

Find the fourth, fifth and sixth terms of the sequence.

$$2, + 4, 8, + \underline{\quad}, + \underline{\quad}, + \underline{\quad} =$$

$$3, + 9, + 27, + \underline{\quad}, + \underline{\quad}, + \underline{\quad} =$$

$$1, + 2, + 4, + \underline{\quad}, + \underline{\quad}, + \underline{\quad} =$$

$$5, + 20, + 80, + \underline{\quad}, + \underline{\quad}, + \underline{\quad} =$$

$$4, + 6, + 9, + \underline{\quad}, + \underline{\quad}, + \underline{\quad} =$$

$$4, + 2, + 1, + \underline{\quad}, + \underline{\quad}, + \underline{\quad} =$$

$$9, + 3, + 1, + \underline{\quad}, + \underline{\quad}, + \underline{\quad} =$$

$$10, + 100, + 1000, + \underline{\quad}, + \underline{\quad}, + \underline{\quad} =$$

$$4, + 10, + 25, + \underline{\quad}, + \underline{\quad}, + \underline{\quad} =$$

$$7, + 14, + 28, + \underline{\quad}, + \underline{\quad}, + \underline{\quad} =$$

$$2, + 12, + 72, + \underline{\quad}, + \underline{\quad}, + \underline{\quad} =$$

$$6, + 1, + \frac{1}{6}, + \underline{\quad}, + \underline{\quad}, + \underline{\quad} =$$

$$\frac{1}{3}, + \frac{1}{9}, + \frac{1}{27}, + \underline{\quad}, + \underline{\quad}, + \underline{\quad} =$$

$$2, + -4, + 8, + \underline{\quad}, + \underline{\quad}, + \underline{\quad} =$$

$$\frac{1}{2}, + \frac{3}{2}, + \frac{9}{2}, + \underline{\quad}, + \underline{\quad}, + \underline{\quad} =$$

$$x, + x^2, + x^3, + \underline{\quad}, + \underline{\quad}, + \underline{\quad} =$$

C11 - 1.4 - Geometric Series WS

$$\begin{array}{ccccccc} \times 3 & \rightarrow & \times 3 & & & & \\ \frac{2}{t_1} & , & \frac{6}{t_2} & , & \frac{18}{t_3} & , \dots & \frac{?}{t_6} , \dots \frac{?}{t_n} \\ n=1 & & n=2 & & n=3 & & n=n \end{array}$$

$t_1 = \text{first term}$
 $r = \text{common ratio}$
 $t_n = \text{term } n$
 $n = \text{number of terms}$

$$t_1 = 2$$

$$r = \frac{t_n}{t_{n-1}}$$

$$r =$$

$$r = \frac{t_n}{t_{n-1}}$$

$$r =$$

$$r = \frac{t_n}{t_{n-1}}$$

A term divided by the term before it

Geometric: r must always be the same

What is the sum of the first six terms s_6 ? $s_6 = ?$, $n = 6$.

$$s_n = \frac{t_1(1 - r^n)}{1 - r}$$

$$s_n = \frac{t_1(1 - r^n)}{1 - r}$$

Sum of "n" terms formula
(if number of terms is known)

Check your answer: $2 + 6 + 18 +$

OR

$$s_n = \frac{t_1 - rt_n}{1 - r}$$

$$t_n =$$

$$s_n = \frac{t_1 - rt_n}{1 - r}$$

Sum of "n" terms formula
(if last term t_n is known)

What is the sum of an infinite number of terms?

$$r =$$

$$r > 1, \therefore$$

C11 - 1.4 - Geometric Sequence *find* t_1, r WS

Find the sum of the first 6 terms. $s_6 = ?$, $n = 6$

$$2, 4, 8, \dots \quad s_n = \frac{t_1(1 - r^n)}{1 - r}$$

$$3, 9, 27, \dots$$

$$5, 25, 125, \dots$$

Find the sum of the first 9 terms

$$8, -4, 2, \dots$$

$$-6, -18, -54$$

$$5, 10, 20, \dots$$

Find the sum of the first 11 terms.

$$2, \frac{1}{2}, \frac{1}{4}, \dots$$

$$9, -3, -\frac{1}{3}, \dots$$

$$27, 3, \frac{1}{3}, \dots$$

Find the sum of the first 5 terms.

$$1, 2, 4, \dots$$

$$10, 100, 1000, \dots$$

$$0.3, 0.33, 0.333, \dots$$

C11 - 1.4 - Geometric find 'n' WS

Find n, and the sum

$$2, 4, 8, \dots, 256 \longrightarrow$$

$$t_n = t_1 r^{n-1}$$

$$s_n = \frac{t_1 - r t_n}{1 - r}$$

$$t_n$$

$$3, 9, 27, \dots, 729$$

$$5, 25, 125, \dots, 3125$$

$$8, -4, 2, \dots, \frac{1}{256}$$

$$-6, -36, -216, \dots, -46656$$

$$5, 10, 20, \dots, 160$$

$$2, \frac{1}{2}, \frac{1}{8}, \dots, \frac{1}{512}$$

$$9, -3, 1, \dots, \frac{1}{81}$$

$$27, 3, \frac{1}{3}, \dots, \frac{1}{2187}$$

$$1, 2, 4, \dots, 65536$$

$$10, 100, 1000, \dots, 1000000$$

$$0.3, 0.03, 0.003, \dots, 0.0000000003$$

C11 - 1.5 - Infinite Geometric Sequences HW

What is the sum of the infinite sequence?

$$\underline{4}, \underline{2}, \underline{1}, \dots$$

$$\underline{2}, \underline{4}, \underline{8}, \dots$$

$$\underline{1}, \underline{\frac{1}{2}}, \underline{\frac{1}{4}}, \dots$$

$$\underline{-1}, \underline{-\frac{1}{2}}, \underline{-\frac{1}{4}}, \dots$$

$$\underline{2}, \underline{6}, \underline{18}, \dots$$

$$t_1 = 2, r = 2$$

$$t_1 = 8, r = \frac{1}{2}$$

C11 - 1.6 - Sigma Notation WS

Take the sum of the terms a_k from the index to n , going up by 1 each time.

Arithmetic

$$\sum_{k=1}^5 3k =$$

$$\sum_{k=2}^5 2k - 1 =$$

$$\sum_{k=2}^5 -2k - 1 =$$

Geometric

$$\sum_{k=2}^6 3(2)^{k-1} =$$

$$\sum_{k=1}^4 2(3)^{k-1} =$$

$$\sum_{k=1}^{\infty} 3\left(\frac{1}{2}\right)^{k-1} =$$



C11 - 1.7 - Arithmetic Sequence Series Word Problems

If you make \$36,000 in your first year at work and get a raise of \$3000 per year. How much will you make in your 10th, 20th, 50th year at work?

How much will you make total after 10 years, 20 years and 50 years?

C11 - 1.8 - Geometric Sequence Series Word Problems

A ball rolls off a building 100 m tall. Each time the ball bounces on the floor, it rises to 80% of the previous height.

How high does the ball bounce after the first bounce? The third bounce?

How high does the ball bounce after the n th bounce? (Find the general formula)

How high does the ball bounce after the 9th bounce. ($t_{10} = ?$)

What is the total vertical distance the ball has travelled when it hits the ground for the 5th bounce? ($s_5 = ? \times 2 - 100$)

If it bounces forever, what is the total distance?

C11 - 1.8 - Geometric Sequence Series Word Problems

If you make \$1 in your first year at work and get paid double each year after. How much will you make in your 10th, 12th, 20th year at work?

How much will you make total after 10 years, 12 years and 20 years?