

# SOL 7.19

Ron wanted to find a rule for finding the terms in this sequence of numbers.

1    2    6    24    ...

He rewrote the first four terms this way.

1    1 · 2    1 · 2 · 3    1 · 2 · 3 · 4

If Ron continues to write terms this way, what will be the sixth term in the sequence?

$$216 \quad 3^4 = 81$$

$$480$$

$$600 \quad 3^3 = 27$$

$$720 \quad 3^2 = 9$$

$$3^1 = 3$$

$$3^0 = 1$$

$$3^{-1} = \frac{1}{3}$$

$$3^{-2} = \frac{1}{9}$$

What is the value of  $3^{-4}$ ?

A  $\frac{1}{6}$

B  $\frac{1}{24}$

C  $\frac{1}{27}$

D  $\frac{1}{81}$

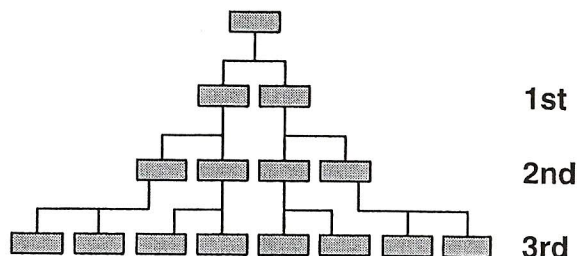
A taxi company based its fares on the following chart.

Miles	0.1	0.2	0.3	1.0	3.0
Fare	\$2.05	\$2.10	\$2.15	\$2.50	\$3.50

If the pattern continues, what would be the fare for a trip of 6 miles?

- A \$3.00
- B \$5.00
- C \$11.00
- D \$15.00

Laureen is studying her genealogy and has started a family tree of ancestors from which she is directly descended.



Laureen has been able to identify direct ancestors for six previous generations. How many direct ancestors does she have in the 6th generation before hers?

- A 12
- B 16
- C 32
- D 64

When any term in this sequence is divided by the previous term, the result is always the same.

3, -6, 12, -24, ...

What is the 7th term of this sequence?

- A -192
- B -96
- C 96
- D 192

What is the common difference of the arithmetic sequence shown below?

-5, -1, 3, 7, ...

- A 2
- B 4
- C 6
- D 8

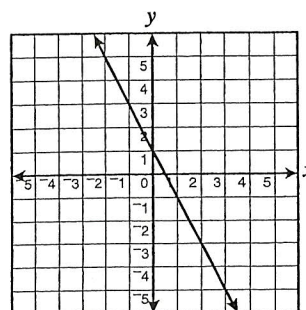
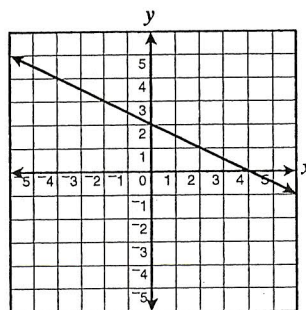
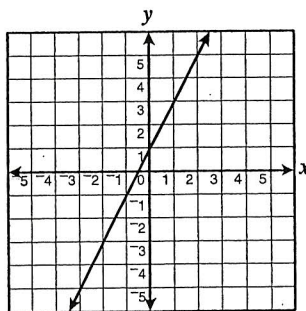
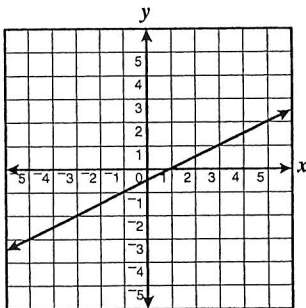
$n$	0	4	6
$2(n+3)$	6	14	?

Which value is missing in the table?

- A 15
- B 18
- C 21
- D 36

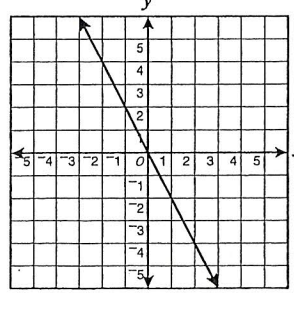
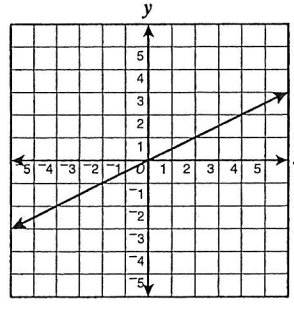
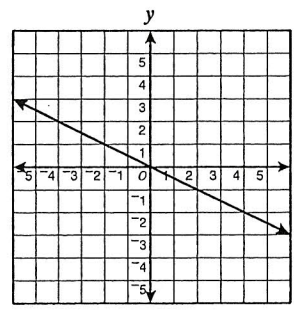
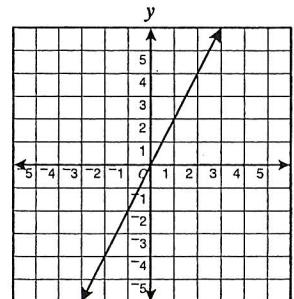
$x$	$y$
2	5
0	1
-2	-3

Which graph shows a line that contains the points in the table of ordered pairs?



$x$	$y$
-4	-2
0	0
2	1

Which is a graph of a line that contains all the points in this table of ordered pairs?



$x$	$y$
-2	-1
0	3
3	9
5	13
10	23

Which is the function described by the table of ordered pairs?

$$y = x + 1$$

$$y = 3x$$

$$y = 2x + 3$$

$$y = x + 13$$

$x$	$y$
-3	-7
0	-1
3	5

Which equation is true for all pairs of values in the table?

$$y = 2x - 1$$

$$y = 2x + 1$$

$$y = x - 4$$

$$y = x + 2$$

The table shows some elements of a function.

$n$	1	2	3	4
?	$\frac{3}{2}$	$\frac{4}{2}$	$\frac{5}{2}$	$\frac{6}{2}$

What is the missing rule in this table?

$$2n$$

$$\frac{n+2}{2}$$

$$\frac{2n+1}{2}$$

$$3n$$

Which table contains *only* values that satisfy the following?

$$y = x - 1$$

A

$x$	$y$
-1	-2
0	-1
1	2

B

$x$	$y$
-1	0
0	1
1	2

C

$x$	$y$
0	1
1	0
2	1

D

$x$	$y$
0	-1
1	0
2	1

What is the 6th term of the geometric sequence shown?

$$80, 40, 20, \dots$$

$$1$$

$$1\frac{1}{4}$$

$$2\frac{1}{2}$$

$$5$$

The table shows  $p$ , the charge in cents, for a long-distance phone call that lasts  $t$  minutes.

$t$	$p$
1	20
2	28
3	36
4	44

Which describes this relationship?

- A  $p = 20t + 12$
- B  $p = 8t + 12$
- C  $p = 11t$
- D  $p = 20t$

$n$	-3	-2	-1	0	1	2
$3^n$	$\frac{1}{27}$	?	$\frac{1}{3}$	1	3	9

Which number replaces the “?” in the table?

- A  $\frac{1}{81}$
- B  $\frac{1}{9}$
- C -1
- D -9

The table shows some elements of a function.

$n$	?
1	1
2	5
3	9
4	13

What is the missing rule in this table?

- A  $2n - 1$
- B  $2n + 1$
- C  $3n$
- D  $4n - 3$

Which graph corresponds to  $y = 2x - 2$ ?

