

3. To avoid theft, the store owners don't want to let too much money collect in the machine, so they take all the money out when they think the machine has about \$25 in it. The tricky part is that the store owners can't tell how much money is actually in the machine without opening it up, so they choose when to remove the money by judging how many candies are left in the machine. About how full should the machine look when they take the money out? How do you know?
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READY, SET, GO!

Name _____

Period _____

Date _____

READY

Topic: Finding the common difference

Find the missing terms for each arithmetic sequence and state the common difference.

1. 5, 11, _____, 23, 29, _____...

Common Difference = _____

3. 8, _____, _____, 47, 60...

Common Difference = _____

5. 5, _____, _____, _____, 25...

Common Difference = _____

2. 7, 3, -1, _____, _____, -13...

Common Difference = _____

4. 0, _____, _____, 2, $\frac{8}{3}$...

Common Difference = _____

6. 3, _____, _____, _____, -13 ...

Common Difference = _____

SET

Topic: Writing the recursive function

Two consecutive terms in an arithmetic sequence are given. Find the recursive function.

7. If $f(3) = 5$ and $f(4) = 8$...

$f(5) =$ _____. $f(6) =$ _____. Recursive Function: _____

8. If $f(2) = 20$ and $f(3) = 12$...

$f(4) =$ _____. $f(5) =$ _____. Recursive Function: _____

9. If $f(5) = 3.7$ and $f(6) = 8.7$...

$f(7) =$ _____. $f(8) =$ _____. Recursive Function: _____

Two consecutive terms in a geometric sequence are given. Find the recursive function.

10. If $f(3) = 5$ and $f(4) = 10$...

$f(5) = \underline{\hspace{2cm}}$. $f(6) = \underline{\hspace{2cm}}$. Recursive Function: $\underline{\hspace{10cm}}$

11. If $f(2) = 20$ and $f(3) = 10$...

$f(4) = \underline{\hspace{2cm}}$. $f(5) = \underline{\hspace{2cm}}$. Recursive Function: $\underline{\hspace{10cm}}$

12. If $f(5) = 20.58$ and $f(6) = 2.94$...

$f(7) = \underline{\hspace{2cm}}$. $f(8) = \underline{\hspace{2cm}}$. Recursive Function: $\underline{\hspace{10cm}}$

GO

Topic: Evaluating using function notation

Find the indicated values of $f(n)$.

13. $f(n) = 2^n$ Find $f(5)$ and $f(0)$.

14. $f(n) = 5^n$ Find $f(4)$ and $f(1)$.

15. $f(n) = (-2)^n$ Find $f(3)$ and $f(0)$.

16. $f(n) = -2^n$ Find $f(3)$ and $f(0)$.

17. In what way are the problems in #15 and #16 different?

18. $f(n) = 3 + 4(n - 1)$ Find $f(5)$ and $f(0)$.

19. $f(n) = 2(n - 1) + 6$ Find $f(1)$ and $f(6)$.