

Warmup 4/ (π rounded to the nearest whole number)

Write the explicit and recursive formula for this sequence.

2, 14, 98, 686 ...

Explicit: $f(n) = 2 \cdot 7^{(n-1)}$

Recursive: $f(1) = 2$

$f(n) = f(n-1) \cdot 7$

Check Homework

Solve using Substitution

$$3x - 2y = 7$$

$$x + 3y = -5$$

$(1, -2)$

Solve using Substitution

$$2x + 4y = 1$$

$$x + 6y = 1$$

$(1/4, 1/8)$

Solve using Substitution

$$5x - y = 18$$

$$10x - 2y = 32$$

No solution

Solve using Substitution

$$-2x - 3y = 12$$

$$-4x - 6y = 24$$

infinitely many solutions

Solve using Substitution

$$3x + y = 14$$

$$2x - 6y = -24$$

$$(3, 5)$$

One smartphone plan costs \$30 per month for talk and messaging and \$8 per gigabyte of data used each month. A second smartphone plan costs \$60 per month for talk and messaging and \$3 per gigabyte of data used each month.

- Write a system of equations for the situation. Define your variables.
- How many gigabytes have to be used for the plans to cost the same? What would that cost be?

- $c = 30 + 8g$
 $c = 60 + 3g$
- \$78 if 6 gigabytes of data are used.

A movie theater sells popcorn and fountain drinks. Brett buys 1 popcorn bucket and 3 fountain drinks for his family, and pays a total of \$9.50. Sarah buys 3 popcorn buckets and 4 fountain drinks for her family, and pays a total of \$19.75.

- Write a system of equations for this situation.
- Find the cost of a popcorn bucket and the cost of a fountain drink.

- $p + 3f = \$9.50$
 $3p + 4f = \$19.75$
- the cost of a bucket of popcorn is \$4.25 and the cost of a fountain soda is \$1.75

The length of a rectangular room is 5 feet more than its width. The perimeter of the room is 66 feet. Let L represent the length of the room and W represent the width in feet.

- Write a system for the situation.
- What are the room's dimensions?

- $L = W + 5$
 $2L + 2W = 66$
- 14 X 19 feet

Word Problem

Aaron is three times as old as his son. In ten years, Aaron will be twice as old as his son. How old is Aaron now?

- Write a system for the situation. Define your variables.
- Solve by substitution

- $a = 3s$
 $a + 10 = 2(s+10)$
- Aaron is 30 years old

Homework

Worksheet