

Warm Up

5/24/19

#25-30 on Released EOC

25 Karen has two dogs. The larger dog weighs 1.4 pounds more than the smaller dog. The combined weight of the two dogs is 12.6 pounds. What is the weight, in pounds, of the smaller dog?

$x$  = smaller dog     $y$  = larger dog

$$y = 1.4 + x$$

$$x + y = 12.6$$

$$5.6 \text{ lbs}$$

$$x + (1.4 + x) = 12.6$$

$$x = 5.6$$

$$\begin{array}{r} 2x + 1.4 = 12.6 \\ -1.4 \quad -1.4 \\ \hline \end{array}$$

$$\begin{array}{r} 2x = 11.2 \\ \hline x = 5.6 \end{array}$$

26 Which choice could be modeled by a linear function?

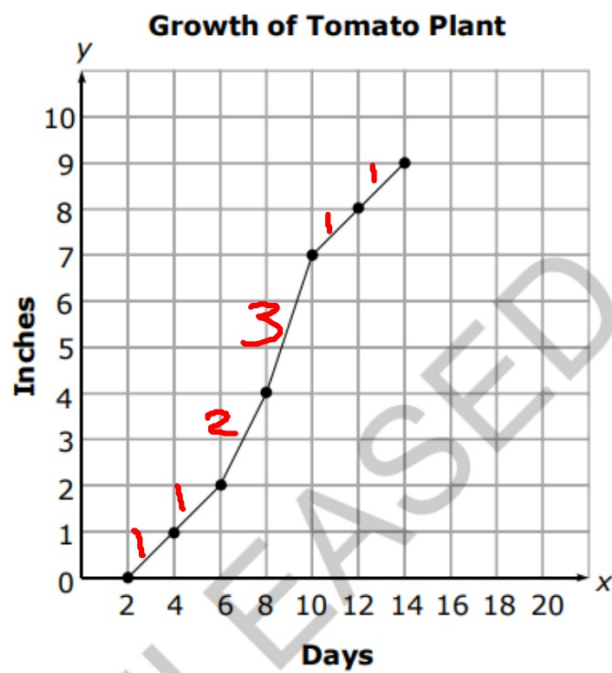
A the amount of money,  $y$ , in an account after  $x$  years earning 4% interest compounded annually *EXPO.*

B the monthly cost,  $y$ , to use a cell phone for  $x$  minutes at a rate of 4 cents per minute

C the height,  $y$ , of a ball after bouncing  $x$  times, if each bounce reaches  $\frac{2}{3}$  the previous height *EXPO.*

D the amount,  $y$ , of radioactive material remaining after  $x$  years when decay occurs at a rate of 30% each year *EXPO.*

- 27 Oscar planted a tomato seed in his garden. Each day he recorded the height of the tomato plant.



During which interval did the tomato plant grow the fastest?

- A Day 4 to Day 6
- B Day 6 to Day 8
- C Day 8 to Day 10
- D Day 10 to Day 12

- 28 The function  $a(n) = 3n - 7$  represents the value of the  $n$ th term in a sequence. What is the sum of the 1st and 5th terms of the sequence?

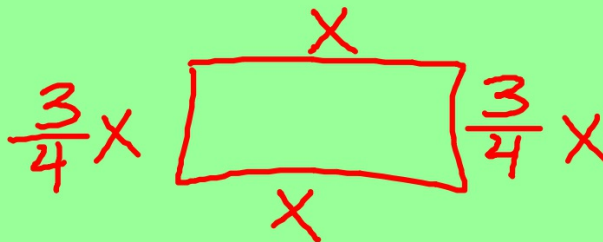
$$a(n) = 3n - 7 \quad n = \text{term \#}$$

$$1^{\text{st}} \quad 3(1) - 7 = -4$$

$$5^{\text{th}} \quad 3(5) - 7 = 8$$

$$-4 + 8 = \boxed{4}$$

- 29 The width of a rectangle is  $\frac{3}{4}$  its length. The perimeter of the rectangle is 420 ft.  
What is the length, in feet, of the rectangle?



A hand-drawn diagram of a rectangle. The top side is labeled 'X' and the bottom side is labeled 'X'. The left side is labeled  $\frac{3}{4}X$  and the right side is labeled  $\frac{3}{4}X$ .

$$\left(\frac{2}{7}\right) \frac{7}{2} X = 420 \left(\frac{2}{7}\right)$$
$$X = 120 \text{ ft}$$

30 This is a paper/pencil copy of an online technology enhanced item.

Two functions are shown below.

$$f(x) = 3x^2 + 14x - 5$$

$$g(x) = 11x + 13$$

Select (click) the points at which the graphs of the two functions intersect.

$(-5, 0)$   $(-3, -20)$   $(2, 35)$   $(6, 79)$

Use desmos to plot each function